DC

BY APPOINTMENT
TO HER MAJESTY THE QUEEN
MOTOR CAR MANUFACTURERS
THE DAIMLER CO. LTD.

Daimler

MAJESTIC

3·8 LITRE SALOON

OWNER'S HANDBOOK

[illegible]

Handbook for

THE
DAIMLER
3·8 LITRE
MAJESTIC SALOON

with

Automatic Transmission and Disc Brakes

THE DAIMLER COMPANY LTD
COVENTRY, ENGLAND

Owners are particularly invited to make full use of the Company's officially appointed Distributors' and Dealers' Repair Depots. Daimler Cars are thus serviced by mechanics who are in constant contact with the Companys' works and with each development of progress.

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FOREWORD

This handbook has been prepared to provide the essential information required for the satisfactory running of the Daimler 3·8 Litre "Majestic" Saloon. The all-important items of attention so essential to maintain the cars in good condition and to ensure trouble-free, satisfactory service, are detailed in the Summary of Maintenance on pages 79—83. Special attention should be paid to the first chapter, "Taking over a new Daimler" and giving detailed recommendations on driving a Daimler with Automatic Transmission. These sections have been included to help the owner obtain the maximum pleasure and satisfaction from his car. The resources of the Daimler Company are behind the cars and should additional information on any point be required, application should be made to The Daimler Company Limited, Coventry, England.

THE DAIMLER COMPANY
LTD. COVENTRY ENGLAND

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THIS HANDBOOK IS APPLICABLE TO THE FOLLOWING CAR NUMBERS

Type Number: **DF316** *for R.H. drive cars*	**Commencing at** **Chassis No. 98300**	*Type Number:* **DF317** *for L.H. drive cars*

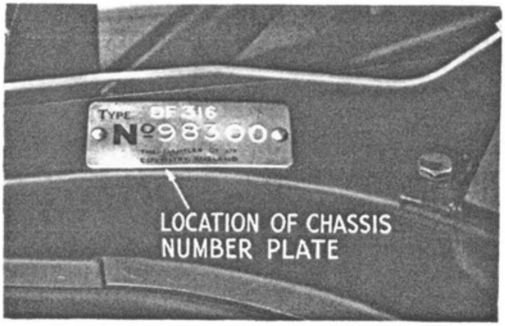
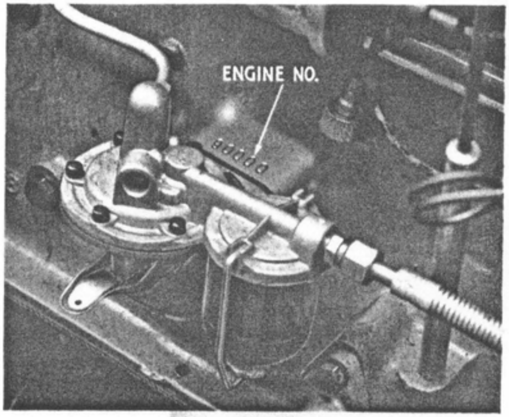


FIG. 1
CHASSIS NUMBER

The Type Number and Chassis Number will be found on the right-hand side of the chassis frame, forward of the scuttle, and must be quoted on all correspondence and service replacement orders.

FIG. 2
ENGINE NUMBER

The Engine Number is stamped on the petrol pump boss on the left-hand side of the engine and must be quoted on all correspondence and service replacement orders.



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KEYS

The ignition key fits all locks—Ignition, Fascia Cabinet, Boot and Driver's Door
It is advisable to keep a record of key numbers and prefixes HERE :—

Ignition

Taking over a new Daimler

An owner who has not previously driven a car fitted with the Automatic Transmission will find the information he requires on the subject in the remainder of this chapter. We feel that the recommendations will well repay study in the additional pleasure obtained.

POINTS TO BE CHECKED

These will normally have been checked before handing over, but assurance should be obtained from the supplier that such is the case. When taking over a new car, the following points should be checked :—

Check the oil level in	The Engine	*See page* 23
	The Automatic Transmission	*See page* 40
	The Rear Axle	*See page* 49

Check that the chassis lubrication has been carried out .. .. *See page* 82

In accordance with the chart on page 82.

With the recommended lubricants on page 83.

Brake Fluid

Check the level in the master cylinder reservoir situated on the dash. See page 59

Water

Check the level of the water in the radiator. Fill up with clean water if necessary. Release filler cap slowly.

The use of anti-freeze mixture in winter is strongly recommended to avoid draining of the water system in very cold weather.

For Frost Precautions see page 37.

Windscreen Washer

Check the water level in the windscreen washer reservoir. See page 70.

Petrol

Check that the petrol tank contains sufficient fuel. The total capacity of the tank is 18 gallons, including 1¾ gallons reserve.

Running In

The engine, automatic transmission and rear axle are bench tested before installation, and the complete car is tested on the road. Consequently running-in at a fixed low speed is not necessary or desirable.

Nevertheless, care should be taken to ensure that, during the first 100 miles, prolonged running at light throttle should not exceed 50 m.p.h. Furthermore, when hill climbing or accelerating, full throttle should not be used for more than 10 seconds continuously or for not more than a total of 1 minute in any 10 minutes period.

After the first 100 miles and up to 500 miles, the engine should not be run at full throttle for long periods.

For the first 500 miles, the oil level in the engine should be watched carefully since, during that time, the piston rings will complete their bedding-in.

Service after the first 500 miles

After the car has completed the first 500 *miles, it should receive the following attention :—*	*See page*
1. **Drain and refill oil in engine, automatic transmission and rear axle**	**24, 40, 49**
2. **Adjust camshaft chain tensioner**	**23**
3. **Clean oil filter**	**24**
4. **Tighten down cylinder head nuts**	**26**
5. **Check valve tip clearances, and adjust if necessary**	**26**
6. **Check sparking plug gaps and contact breaker points and adjust if necessary**	**32, 34**
7. **Clean carburettor filters and float chambers**	**30**
8. **Set slow running and check tightness of all nuts and screws**	**28**
9. **Clean sediment bowl and petrol pump**	**31**
10. **Check fan belt adjustment**	**36**
11. **Check adjustment and functioning of all controls**	**11, 43**
12. **Top up battery and check working of electrical equipment**	**69**
13. **Adjust brakes and check level of brake fluid in reservoir**	**58**
14. **Check alignment of front wheels and adjust if necessary**	**54**
15. **Check tightness of all chassis nuts, bolts and clips, especially steering connections**	—
16. **Check rear spring U-bolts and tighten if necessary**	—
17. **Check body mounting bolts**	—
18. **Check wheel nuts L.H. nuts on Left-hand Side** **R.H. nuts on Right-hand Side**	—
19. **Check tyre pressures**	**20**
20. **Road test and adjust ignition**	**32**
21. **Check alignment of windscreen wash jets**	**70**
22. **Check setting of headlamp beam**	**63**

The above points and any other lubrication and adjustments will be carried out by the Distributors or Agent from whom the car was purchased. No charge, other than for materials, will be made.

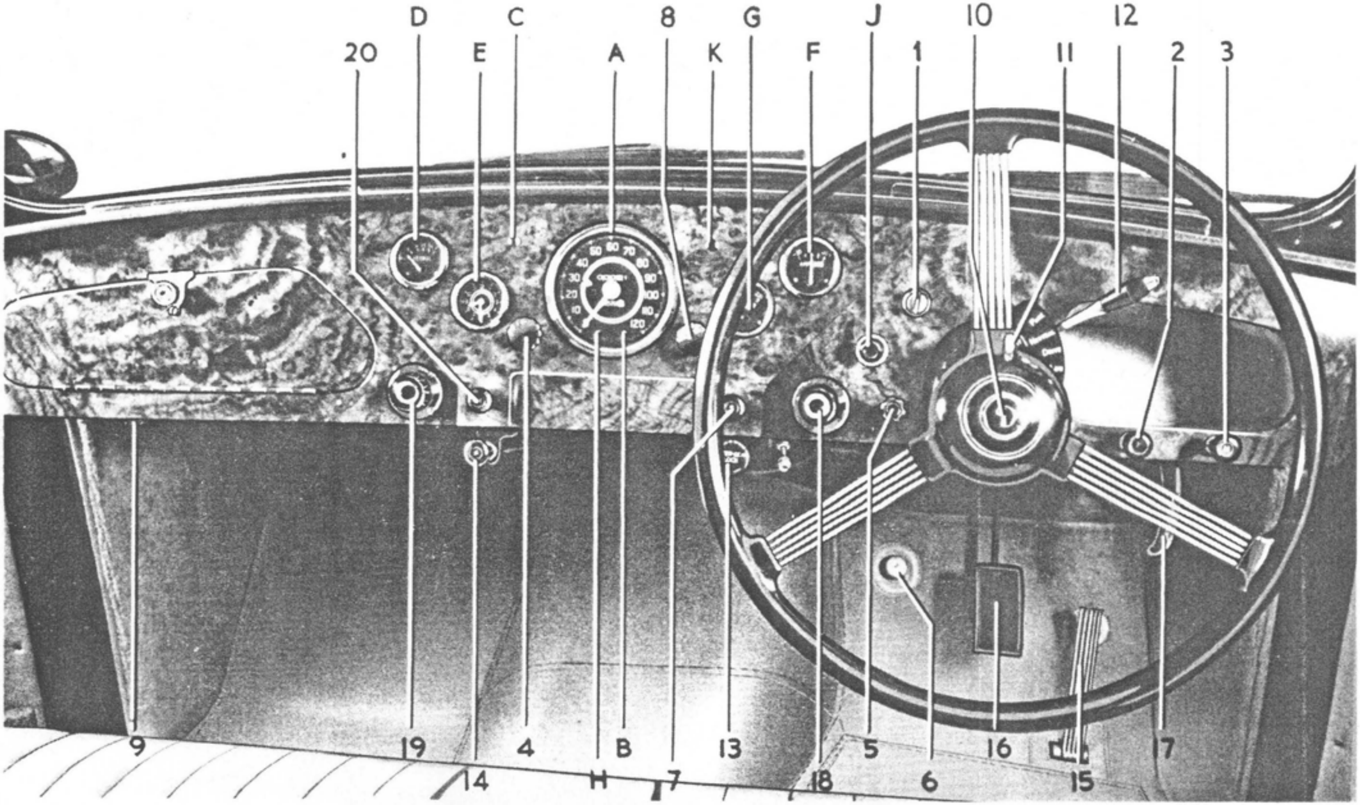

FIG. 3 CONTROLS, INSTRUMENTS AND FASCIA

Controls

(1) Ignition, Starter and Wireless Cut-out Lock Switch

To switch on the ignition, turn the key clockwise until a light resistance is felt ; an additional turn against the action of the spring operates the starter. Release the key as soon as the engine fires. A wireless, when fitted, will only operate when the key is turned. If it is required to operate when the engine is switched off, turn the key anti-clockwise.

When the ignition is switched on the ignition warning red light and the oil warning green light illuminate in the fascia panel.

(2) Hand Throttle (Knob marked "T")

Pull to open throttle. This control is ratchet locked ; to release, turn clockwise and press home.

(3) Mixture Control (Knob marked "M")

Pull out for "rich" mixture. This control is only required for starting from cold and is ratchet locked. To release, turn clockwise and press home. The control should be released as soon as possible after starting the engine.

(4) Lighting Switch (Knob marked "F.H.S.OFF")

This is a four position switch working clockwise.

OFF	Off.
S	Side and tail lamps.
H	Headlamps.
F	Fog lamps.

(5) Panel Light Switch and Rheostat (Knob marked "P")

Turn clockwise to illuminate ; further movement clockwise will reduce the intensity of illumination.

To switch off : Turn anti-clockwise until switch clicks.

This switch operates only when the lights are on. The illumination of the instruments is therefore an indication that the side and tail lamps are lit but does not indicate a faulty side or tail light.

(6) Dipper Switch

This is a foot operated two-way switch, situated on the toe board to the left of the brake pedal. Depress and release to change both headlamps on main beam to both headlamps dipped. When both headlamps are on main beam, an amber pilot light illuminates in the speedometer dial.

(7) Fog Lamp Switch (Knob marked "S")

This control only operates when both fog lamps are switched on. It extinguishes the right-hand lamp so that the left-hand fog lamp can be used separately. These lamps must be used only in fog or falling snow.

(8) **Windscreen Wiper Switch** (Knob marked "WIPER")

This switch has three rotary positions, park, normal speed and high speed. It is operated by turning the knob clockwise. Normal speed is for use in average conditions, high speed is only intended for use during heavy rain, when the wipers are unable to function efficiently at normal speed.

The mechanism incorporates an automatic parking device.

Windscreen Wash Control

This is controlled by a separate button adjacent to the wiper switch. On some earlier models it is controlled by pressing the windscreen wiper switch. It is advisable to use the wash in conjunction with the Windscreen wipers.

(9) Bonnet Lock Control

To release the lock, pull out the knob under the fascia on extreme left and the bonnet will spring open; a safety catch prevents the bonnet from opening fully, and it should be released by raising the bonnet from the front, simultaneously opening the catch with the middle finger (catch is just to offside of bonnet centre.) The bonnet will remain in the fully open position without support. To close the bonnet, pull it downwards until it rests on the lock plate. Press firmly to engage the lock.

(10) Horn Button

This is in the centre of the steering wheel. Press to operate.

(11) **Direction Indicator Switch** (Flashers)

This is situated above the horn button. The flashers will operate only when the ignition key is turned. They are self-cancelling after a turn, but return the lever by hand if a small movement of the wheel should fail to cancel. Indicator (Amber) in speedometer dial lights up when either flasher is in operation.

(12) Selector Lever and Quadrant

The selector quadrant mounted on the steering column has five positions for the selector lever—PARK, NEUTRAL, DRIVE, LOW and REVERSE.

This quadrant is gated between PARK and NEUTRAL and between DRIVE and LOW. There is also an upper gate between LOW and REVERSE. To move the lever over the gate, lift towards the steering wheel, lower the lever to normal position to move from LOW to REVERSE.

PARK

With the selector lever in this position, the transmission is mechanically locked which prevents the car from moving. A safety device is incorporated to prevent engagement above 4 m.p.h. (6·5 k.p.h.), but it is recommended that the car is brought to rest before selecting PARK.

NEUTRAL

When NEUTRAL is selected there is no drive through the transmission, thus enabling the car to be pushed or towed if required.
(See notes on towing, under Driving Instructions).

DRIVE

In this position the transmission provides fully automatic gear changes for all normal forward driving.

LOW

In this position the transmission is locked in the low ratio for use when automatic changes are not desired, *e.g.*, for sustained maximum engine braking in abnormally hilly country.

CAUTION. Do not change from DRIVE to LOW at speeds above 30 m.p.h. (48 k.p.h.) (except in emergency), as otherwise the transmission will be unduly strained.

REVERSE

In this position the car reverses. The car should be brought to rest before selection. A safety device is incorporated to prevent REVERSE being inadvertently engaged at forward speeds exceeding 4 m.p.h. (6·5 k.p.h.)

(13) Automatic Transmission Intermediate Gear Lock Control

Fitted on bracket under fascia board just to the right of the centre. Pulling this control locks the Intermediate gear in operation (see Driving Instructions for full description of method of operation).

(14) Petrol Reserve Control (Knob marked "R" under fascia)

Pull out the control to run on reserve supply. Push in after refilling the tank.

(15) Accelerator Pedal

The accelerator is on the extreme right.

(16) Brake Pedal

This pedal is on the left of the accelerator pedal.

(17) Parking Handbrake

The handbrake lever is positioned on extreme right-hand side, underneath the fascia, and is of the suspended type. Pull to engage.

To release, pull lever slightly and release trigger with the index finger. Push the handbrake lever forward as far as it will go.

(18) Heater Control for Air Temperature

This controls the air temperature in the car.

Rotate clockwise from "OFF", to "WARM", "HOT", then "COLD".

Register the required "CONDITION" indicated on control knob, with the mark on fascia. The mark on fascia is at right-hand side of control knob.

(19) Demisting Control

This controls demisting or defrosting.

Rotate anti-clockwise from "OFF" to "DEMIST", then to "DEFROST".

Register the required "CONDITION" indicated on control knob, with the mark on fascia. The mark on fascia is at left-hand side of control knob.

(20) Blower Control (Knob marked "H")

This boosts the flow of air to increase the temperature. It must always be "ON" for Defrost.

Pull to operate.

Instruments

(A) Speedometer

This instrument incorporates a trip recorder. To set the recorder to zero, push up the cable projecting below the fascia panel and wind the knurled button clockwise. After setting, the cable is returned by spring action. The main beam and flasher warning lights are located at the bottom of the dial.

(B) Main Beam Pilot Light (red) in speedometer dial

It lights up when both headlamps are on and automatically goes out when the headlamps are "dipped".

(C) Ignition Warning Light (Red)

The bulb lights up when the ignition is switched on and will go out when the dynamo has begun to deliver charging current to the battery. If the lamp lights up when the engine is running at more than tick-over speed it indicates that the dynamo is not charging, which requires immediate investigation. If the light fails to appear when the ignition is first switched on the bulb is faulty and should be replaced as soon as possible.

(D) Petrol Gauge

The dial is marked E, ¼, ½, ¾, F. The full tank contains 18 gallons including 1¾ gallons reserve.

(E) Electric Clock

Any tendency for this clock to gain or lose time can be rectified by a small screw type regulator located near the centre at the back of the casing.

The clock can be regulated by carrying out the following instructions.

(1) Switch on the ignition and adopt a position facing the back of the fascia.

(2) Remove the ignition or oil warning light bulb from its socket and position to light up the back of the fascia.

(3) Remove the two knurled nuts, earth lead and bracket from the clock mounting studs.

(4) Steady the clock face with one hand and adjust with the other using a screw driver of about four inches in length and not more than ⅛″ blade width.

FOR A SLOW CLOCK TURN THE SCREW ANTICLOCKWISE.

FOR A FAST CLOCK TURN THE SCREW CLOCKWISE.

Caution : The adjuster is sensitive and for a small movement of the screw the weekly gain or loss of time is considerable.

Note : Fig. 4 is not necessarily identical with this type, but does indicate the clock adjuster. (Regulator screw in the illustration)

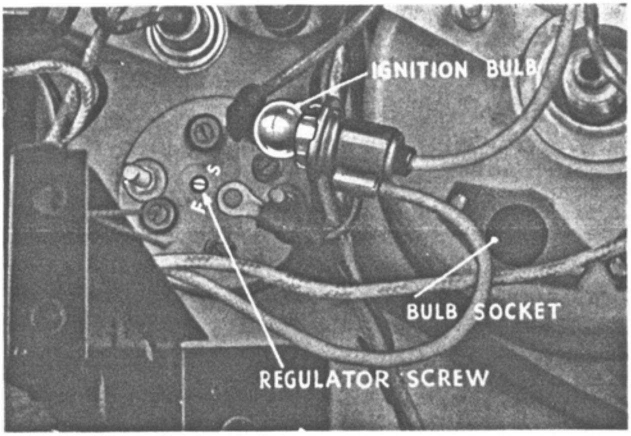

FIG. 4 ELECTRIC CLOCK REGULATOR

(F) Ammeter

The ammeter indicates the rate of charge or discharge of the battery. As the dynamo output is controlled according to the state of the battery, the ammeter will show a heavy charge when the battery is in a low state, but the charging rate will become less as the battery reaches a state of full charge. Investigate any sudden or heavy discharge, which will indicate that there is a "short" somewhere in the wiring system.

(G) Water Temperature Gauge

This should, under normal running conditions, read between 170 deg. F. (76·7 deg. C.) and 190 deg. F. (87·8 deg. C.). Investigate any sudden rise or fall as the cooling system is pressurised to 4 lbs/sq. in. (19·52 Kg/m^2) the water will be on boiling point at 224 deg. F. (107 deg. C.). When topping up the radiator, release the filler cap slowly.

(H) Flasher Warning Light (Amber) in the speedometer dial

Gives an intermittent light when either flashers are engaged. In the event of a filament failure in one or both of the direction indicator lamps, the warning light bulb will not flash, so giving a warning to the driver.

(J) Cigar Lighter

To operate : Push knob in and await automatic release. The element is protected against accidental burn out and a time interval of 30 seconds must elapse before re-use.

(K) Oil Pressure Warning Light (Green)

The bulb lights up when the ignition is switched on, but should go out when the engine is running at more than tick-over speed. Should the light remain on while the engine is running at more than tick-over speed, it is a warning that the oil pressure has failed; the engine should then be switched off and the cause investigated at once. (See page 25). If the lamp fails to light up when the ignition is switched on it can be attributed to a faulty bulb, which should be replaced as soon as possible.

Starting Instructions

Starting from Cold

(1) The starter switch will only operate when the selector lever is in the PARK or NEUTRAL position.

(2) Pull out the mixture control.

(3) Switch on the ignition and engage the starter; release the starter as soon as the engines fires.

(4) The mixture control should be partly returned to the closed position after the engine has started. Turn the control knob clockwise to release the ratchet, Whether the car is driven straight off after starting or the engine allowed to warm up first, the mixture control must be fully closed as soon as possible.

Normal Start (Engine warm).

Repeat as (1) and (3).

Using Automatic Transmission with Cold Engine

The following instructions are provided to cover difficulties which may be experienced when moving away from a cold start.

On using the rich mixture for a cold start, the engine running speed can be some what high due to the interconnection between the mixture control and throttles. The carburettor adjustment should be such that the jet orifice begins to lower at the same time that the cam begins to open the throttles.

When starting the engine under very cold conditions it will be necessary to pull the mixture control well out. Directly the engine has started it is usually possible to return the control to the partly closed condition and reduce the engine speed to approximately 1,000 r.p.m.

If it is required to move away quickly, apply the foot brake firmly before placing the selector lever into REVERSE, which will be the position usually required to move out of a garage. The gear will engage with a slight bump, but the brake application as described above will keep the car under control. By easing the brake pedal as required, the car can be readily manoeuvred.

The same method should be used when it is desired to move forward. Return the mixture control to the closed position as soon as possible.

Recommended Driving Instructions

Normal Driving

For all normal forward driving, place the selector lever in Drive after the engine has been started and before depressing the accelerator pedal.

When moving away, the car will start in Low, change to Intermediate and then to Direct.

The speeds at which changes occur will depend upon the amount the accelerator pedal is depressed.

With light throttle opening the changes will be approximately:

Low to Intermediate	10 m.p.h. (16 k.p.h.)
Intermediate to Direct	22 m.p.h. (35 k.p.h.)

While with full throttle opening the changes will be approximately:

Low to Intermediate	30 m.p.h. (48 k.p.h.)
Intermediate to Direct	50 m.p.h. (80 k.p.h.)

When the accelerator pedal is depressed to the fully open position, a slightly heavier spring will be felt. Depression of the accelerator pedal past this point will over-ride the maximum throttle opening and give a more prolonged operation of Low and Intermediate.

For the over-rider position the changes will be approximately:

Low to Intermediate	35 m.p.h. (56 k.p.h.)
Intermediate to Direct	58 m.p.h. (93 k.p.h.)

Rapid Acceleration

For rapid overtaking while cruising in Direct at speeds up to 45 m.p.h. (72 k.p.h.) depressing the accelerator pedal to full throttle will automatically bring about a change down. At speeds from 45-55 m.p.h. (72-88 k.p.h.) the use of the throttle over-ride will give the same result. Direct drive will return as car speed increases or the accelerator pedal is released.

Hill Climbing

On normal hills the Intermediate ratio will be engaged with increased accelerator pedal depression. To prolong the operation of this ratio when required, depress and hold the accelerator pedal in the throttle over-ride position.

On very steep hills, as the speed decreases and the car speed on full throttle falls below 10 m.p.h. (16 k.p.h.) Low may be manually selected.

Intermediate Gear Locking Device

The Intermediate gear can be locked in operation by pulling out the control fitted on bracket under fascia board just to right of the centre. When pulled out whilst proceeding in direct drive or Intermediate gear, the Intermediate gear is locked in operation until a speed of approximately 60 m.p.h. is reached, when a change to direct drive takes place automatically. When speed falls to 55 m.p.h., automatic change back to Intermediate gear takes place. Thus a hill can be climbed steadily at whatever speed the driver chooses up to 60 m.p.h., instead of a series of automatic changes dictated by accelerator pressure. Likewise, such series of automatic changes as would occur in heavy traffic are avoided by use of this control.

Note: If control is pulled out whilst stationary or whilst moving forward in Low gear, with selector in "Drive" position, a change from Low to Intermediate will not take place until 30 m.p.h. is reached.

On coming to rest, Low gear will not come into operation, but a hill-holding lock becomes operational and prevents car from rolling back if car is on an incline **whilst engine is still running.** Any subsequent restart will be in Intermediate gear, but if Low gear is needed for restarting on a steep hill, this can be obtained by

A — pushing in control knob; or
B — selecting Low gear.

On over-run, or when descending a hill, a retarding effect approximately equal to top gear is obtained.

Stopping the Car

Release the accelerator pedal and apply the brakes in the normal manner; the car can be held stationary with a light application of the foot brake.

Note: In accordance with established Daimler practice, the car may be held on hills for short periods by depression of the accelerator pedal without use of the handbrake being necessary.

Reversing

Allow the car to come to rest before placing the selector lever in the REVERSE position. Depress the accelerator pedal with discretion, as the car freewheels in reverse. Bring the car to rest before moving the selector lever back into LOW or DRIVE.

Prolonged Idling

Prolonged idling is sometimes unavoidable. As a precaution under such conditions, select NEUTRAL or PARK and apply handbrake.

Parking

When the car is left standing, particularly on a hill, apply the handbrake, switch off the ignition and, as an additional precaution, place the selector lever in PARK. If the car is parked on an incline the parking brake pawl may not immediately free itself due to the load on the interlocking surfaces. Free the drive by carrying out the following procedure:—

If the car is pointing up-hill:—

Start the engine, release the handbrake and place the selector lever in DRIVE or LOW. Depression of the accelerator pedal will ease the car forward and release the parking brake pawl.

If the car is pointing down-hill:—

Repeat the foregoing, but place the selector lever in REVERSE. In both cases it may be necessary to hold the selector lever against the spring load in the actuating rod until the pawl is released.

Starting the Engine by Pushing Car

Place the selector lever in NEUTRAL. Switch on the ignition and set the mixture control if the engine is cold.

Run the car forward down a hill, or obtain a push from the rear.

When the car has reached a speed of 30 m.p.h. (48 k.p.h.) move the selector lever to DRIVE.

Warnings

(a) IMPORTANT
DO NOT move selector lever into LOW position at speeds exceeding 30 m.p.h. (48 k.p.h.) except in an emergency.

(b) Do not move selector lever from PARK or NEUTRAL into DRIVE, LOW or REVERSE position with the engine racing. (See note below on cold engine.)

(c) Do not select NEUTRAL position at road speeds exceeding 45 m.p.h. (72 k.p.h.).

(d) When the vehicle is being towed, the selector lever must be in NEUTRAL, and speeds of 45 m.p.h. (72 k.p.h.) must not be exceeded.

(e) If the car is started by towing, use a long tow rope and be prepared to move the selector lever from DRIVE to NEUTRAL, and apply the footbrake immediately the engine starts.

(f) Starting the engine by the Starting Handle:
On no account should an attempt be made to start or turn the engine by hand unless the selector lever is in the PARK position.

Note: The starter switch operated by the ignition key will only function when the selector lever is in the PARK or NEUTRAL position as indicated on the selector quadrant.

3·8 Litre 'Majestic' Saloon Specification

TYPES DF316 AND DF317

Dimensions and Weights

Wheelbase	9′ 6″	(2895 mm.)
Track—Front	4′ 8″	(1422 mm.)
Track—Rear	4′ 9″	(1448 mm.)
Length Overall	16′ 4″	(4978 mm.)
Width Overall	6′ 1¼″	(1861 mm.)
Height Unladen	5′ 2¾″	(1594 mm.)
Ground Clearance Unladen	7″	(168 mm.)
Weight (Kerb)	36 cwt	(1829 kgs.)
Weight (Shipping)	34½ cwt.	(1753 kgs.)
Turning Circle—Right- and Left-hand	42′ 0″	(12802 mm.)

Engine Data

3·8 Litre, 6 Cylinder O.H.V., developing 147 b.h.p. at 4400 r.p.m. and a maximum torque of 209 lb./ft. at 2800 r.p.m.

Bore, 3·4″ (86·36 mm.); Stroke, 4·25″ (107·95 mm.); Cubic Capacity, 3794 cc.; R.A.C. Rating, 27·74; Compression Ratio, 7·5 : 1; Firing Order, 1 5 3 6 2 4; Tappet Clearance, 0·013″ (0·33 mm.); Spark Gap, ·025″ (0·64 mm.); Spark Plug, Type Lodge CLNH; Distributor Points gap 0·014″/0·016″ (0·36/0·41 mm.).

Carburettors

Type : Twin Carburettors S.U.-HD6.
Throttle Diameter, 1·75″ (44·45 mm.).

Fuel Supply

Pump : A.C. mechanical driven by cam and lever. Hand primer on pump.

Lubrication (Engine)

Type : Full force feed. Filter : Full flow series.

Cooling System

Type : Fan and Water Pump.
Temperature Control : Thermostat.
Running Temperature : 170 —190°F.

Ignition

Type : Lucas 12 volt. Coil and Distributor.

Automatic Transmission

Torque Converter in conjunction with a planetary gearbox. Mechanical Ratios in planetary gearbox.

Low	2·308 : 1
Intermediate	1·435 : 1
Reverse	2·009 : 1

Note : The Low, Intermediate and Reverse planetary gear sets are driven in series with a torque converter which has an output/input torque ratio ranging from approximately 2 : 1 down to 1 : 1.

Therefore, in forward gears, there is an infinitely variable ratio from 4·6 : 1 in Low to 1·435 : 1 in Intermediate.

In Top gear a direct drive clutch provides a direct mechanical drive from the engine to the rear axle by-passing both the torque converter and the planetary gear sets.

Reverse gear has a maximum of 4 : 1 ratio, including torque conversion.

Propeller Shaft

Type: A divided Hardy Spicer propeller shaft having three needle roller bearing universal joints and one sliding spline coupling with a flexibly mounted centre bearing support. The centre bearing is pre-packed with grease and requires no further attention.

Rear Axle

Type: Hypoid Bevel.
Ratio of gears 3·92 : 1.

Capacities

Petrol Tank: 18 Gallons, inc. 1¾ gal. reserve.
(82 Litres, inc. 8 Litres reserve).
Cooling: 23½ Pints (13½ Litres).
Engine Sump: 12½ Pints (7 Litres).
Steering Box: 1 Pint (·55 Litre).
Automatic Transmission: 15 Pints (8·5 Litres).
(SEE PAGE 42)

Rear Axle: 3 Pints (1·7 Litres).

Suspension

Front

Type: Daimler Independent by means of coil spring and links. Transverse anti-roll bar is fitted at the front.

Rear

Type: Semi-elliptic leaf springs.

Suspension Dampers

Telescopic type dampers are fitted incorporating bump and rebound stops.

No maintenance or adjustment is normally required.

Wheels and Tyres

Tyres 6·50 x 16 Tubeless on 16″ x 5½″ rims.
Pressures: 28 lbs./sq. in. Front; 30 lbs./sq. in. Rear.

Note: Left-hand wheel nuts on L.H. side. Right-hand wheel nuts on R.H. side.

Nuts marked L.H. and R.H. respectively.

To remove wheel on car, turn nuts in opposite direction to forward rotation of wheel.

The Power Unit

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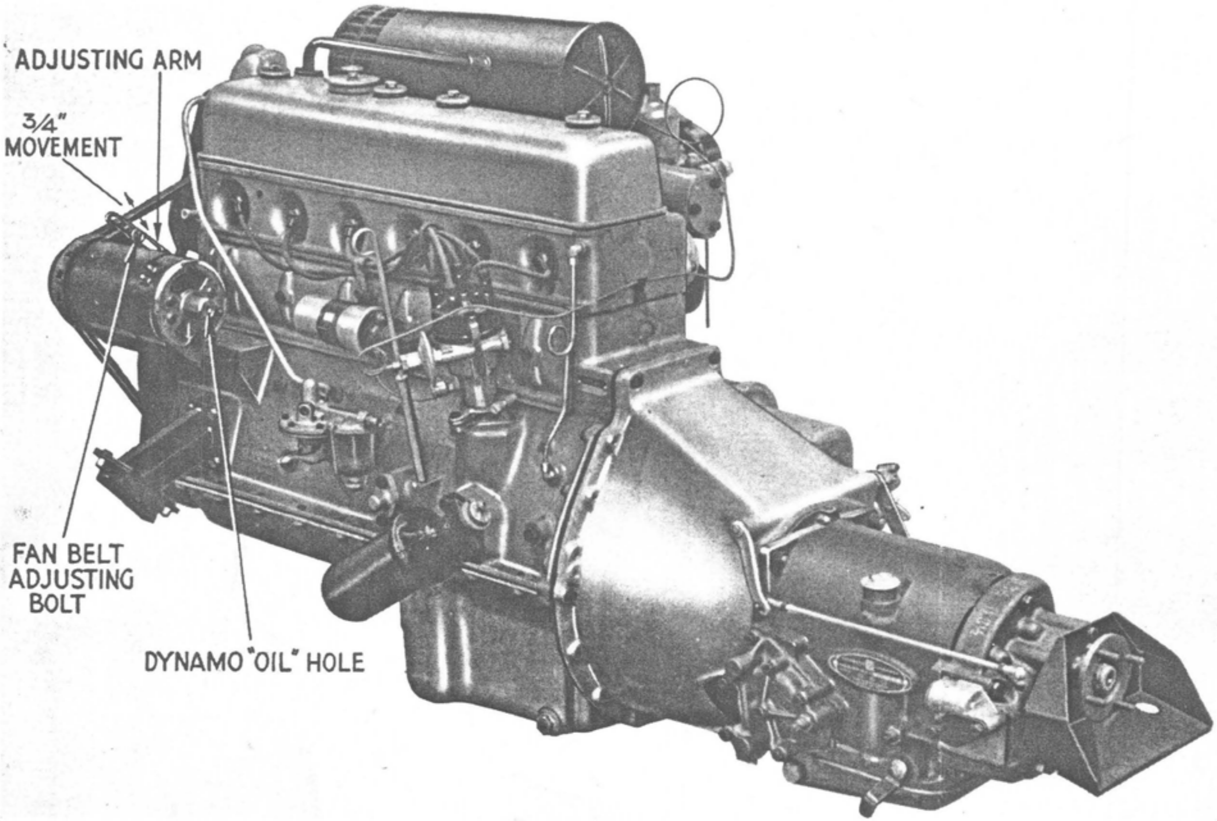


FIG. 5 THE POWER UNIT

The Engine

Particulars of the engine can be seen on page 19 under "Engine Data".

CAMSHAFT CHAIN TENSIONER

The camshaft timing chain is fitted with a spring-loaded chain tensioner located inside the chain cover at the front of the engine.

Maintenance

At the first 500 miles and every 3,000 miles. Adjustment is necessary whenever the chain becames noisy. To adjust, remove the rubber cap on the side of the chain cover. Slacken the small setscrew on the side of the tensioner, which then becomes self-adjusting. Turn the engine slightly forward with the starting handle and tighten the setscrew.

Note : It is important not to allow the engine to slip back while the setscrew is slack.

LUBRICATION SYSTEM

For Recommended Lubricants see page 83

Lubrication of the engine is by a gear type oil pump submerged in the sump. The oil is pumped under pressure through a full-flow filter, and from thence to the main and big end bearings, camshaft bearings and the valve rocker gear. A warning device is mounted on the fascia panel in the form of a green lamp which lights when the oil pressure has fallen below 10 lbs. per square inch (·703 kg./cm^2.) The lamp will flicker at low engine speeds, but this can be disregarded.

Maintenance

DAILY—Check the oil level in the engine

The oil dipstick is mounted on the left-hand side of the engine. Wipe clean before dipping the oil. The correct level is indicated by a groove on the dip-stick. If the oil level has fallen below the mark on the dip-stick, the sump should be replenished at once. The oil filler cap is located on top of the cylinder head cover and is removed by pulling up the knob in the centre. After filling up, replace the cap squarely over the filler orifice and press on the knob to secure it.

Changing the Oil

The engine oil should be changed after the first 500 miles (800 km.) and thereafter every 3,000 miles (4,800 km.). See page 20 for capacities.

(1) Draining off the sump will be greatly facilitated if the engine is warm and the oil fluid.
(2) The drain plug is situated on the left-hand side of the oil sump.
(3) While the oil is running off, the oil filter can be removed for cleaning the filter element.
(4) Replace the drain plug, making sure the washer is in good condition.

Removing Filter Assembly

Remove the filter drain plug and drain off the oil.

The filter is held in position by a bolt, the hexagon head of which protrudes at the base. Unscrew the bolt until it is clear of the thread; the filter will then come away from the adaptor on the engine case. Take out the filter element. Thoroughly clean the element and the metal container in clean petrol. Replace the element in the container; insert the fixing bolt and locate the screwed end in the hole in the adaptor. Tighten the bolt until the filter is held securely. *Note :* The lip of the container rests against a rubber washer in the adaptor. Before refitting the filter, take out the rubber washer and check that it is not damaged; if it is, replace by a new one. Refit the drain plug and replenish.

A new Filter Element FG.2362 should be fitted every 18,000 miles (28,800 km.).

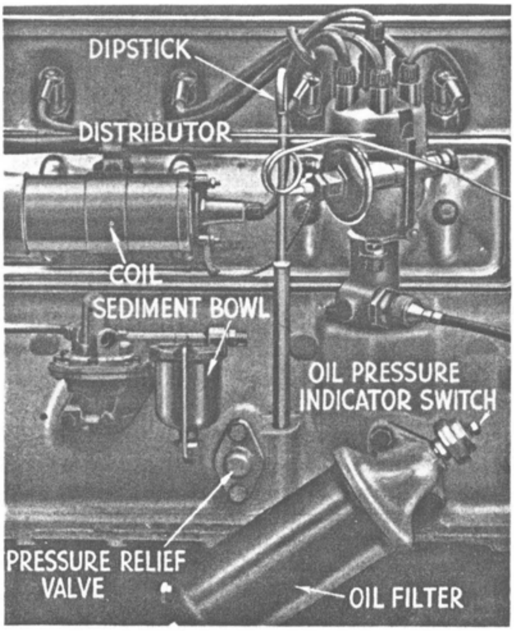


FIG. 6 LOCATION OF OIL PRESSURE RELIEF VALVE, OIL FILTER, DIPSTICK, AND OIL PRESSURE SWITCH

The Oil Pressure Relief Valve

This is located in the main oil gallery inside the engine case. The cover plate is bolted on the outside of the engine case to the left of the oil filter adaptor. The relief valve is not adjustable, and the only attention that can be given is to remove it and clean the thimble and the pressure spring.

SPECIAL INFORMATION

The Oil Warning Light

If the green light comes on while the car is being driven under normal conditions the cause should be investigated at once. Make the following checks :—

(1) Check the oil level in the sump; if it is low, top up to the "Full" mark on the dipstick.

(2) Have the oil warning light switch checked for faults and replace if necessary. Check the wiring connections.

(3) Check the oil pressure relief valve to ensure it is not sticking. See Oil Pressure Relief Valve, above.

(4) Examine the engine for any heavy oil leaks.

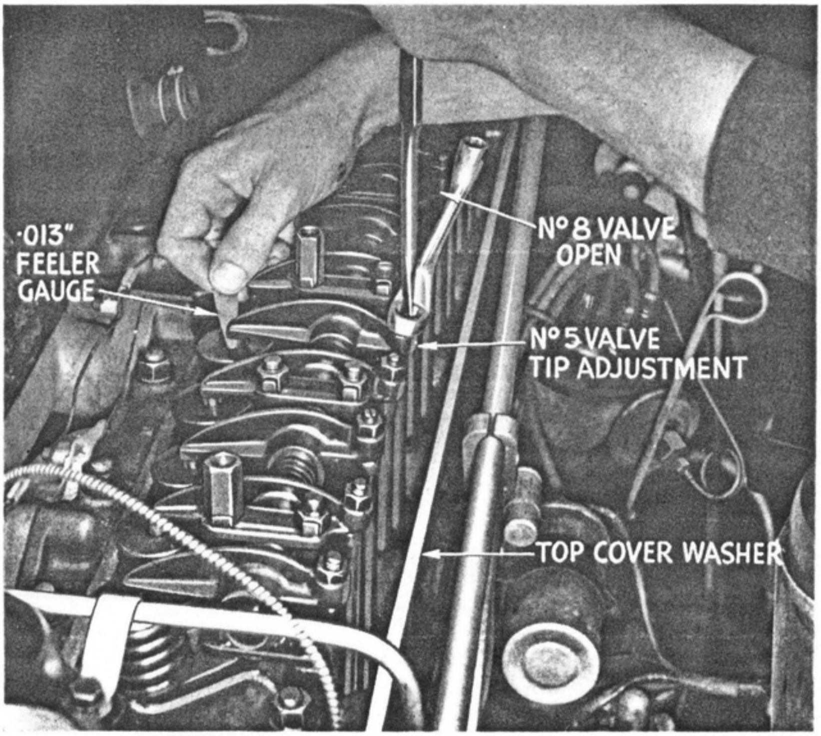


FIG. 7 ADJUSTING VALVE TIP CLEARANCES

Valve Tip Clearance (See page 19 for clearance figures)

Check and adjust clearances after the first 500 miles (800 km.) and thereafter every 3,000 miles (4,800 km.)

(1) The engine must be at normal running temperature.

(2) Remove the air silencer breather pipe.

(3) Remove the cylinder head top cover by unscrewing and withdrawing the four hexagon-headed bolts together with cup washers and rubber seals.

(4) Turn the engine over with the starting handle until No. 12 valve (nearest the bulkhead) is fully open, *i.e.*, the spring is fully compressed. No. 1 valve will now be closed and in correct position for checking the clearances between valve tip and rocker arm.

(5) Insert the feeler which should slide between rocker arm and valve. This feeler gauge is provided in the tool kit.

(6) If the valve clearance requires re-adjustment, loosen the locknut on the screw at the push rod end of the rocker arm and tighten or slacken the screw until the correct clearance is obtained. Hold the screw with a screwdriver to prevent movement and tighten up the locknut.

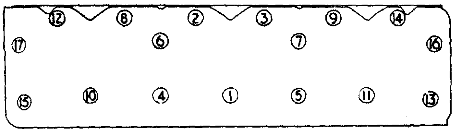
(7) After tightening, re-check the clearance to see that this has not been altered by tightening the locknut.

(8) Adjust the valves by the "Rule of 13". Two valves are operative :—
1. The valve observed to be open, *i.e.*, its spring compressed.
2. The valve to be adjusted.
The rule of "13" implies that the sum of the operative valve numbers is always 13, *e.g.*, if number 2 valve requires adjustment, turn the engine until number 11 valve is observed to be fully open (2 + 11 = 13). If all valves are adjusted as they progressively operate, only the minimum of cranking will be necessary, moreover, all valves will have been adjusted when the first valve observed to be open again opens.

(9) Before replacing the top cover, see that the cork joint is in good condition and replace it carefully. Replace the top cover, thread the cup washers and rubber seals on the fixing bolts and screw down until rubbers begin to bulge *a little. Do not over-tighten.*

(10) Replace the air silencer breather pipe.

Note : Cylinder head nuts should be tightened down in the following order :—



The Carburettors

The twin S.U. carburettors are of advanced design incorporating a leakproof jet assembly which should not be disturbed for normal running adjustments.

Before making adjustment to the carburettors make sure that any deterioration of engine performance is not due to: incorrect timing, tappet clearances or settings of the contact breaker and sparking plug gaps.

The mechanical action of the twin carburettors is synchronised by inter-carburettor linkage which in turn is operated by the three controls: "Throttle", "Mixture" and "Accelerator Pedal".

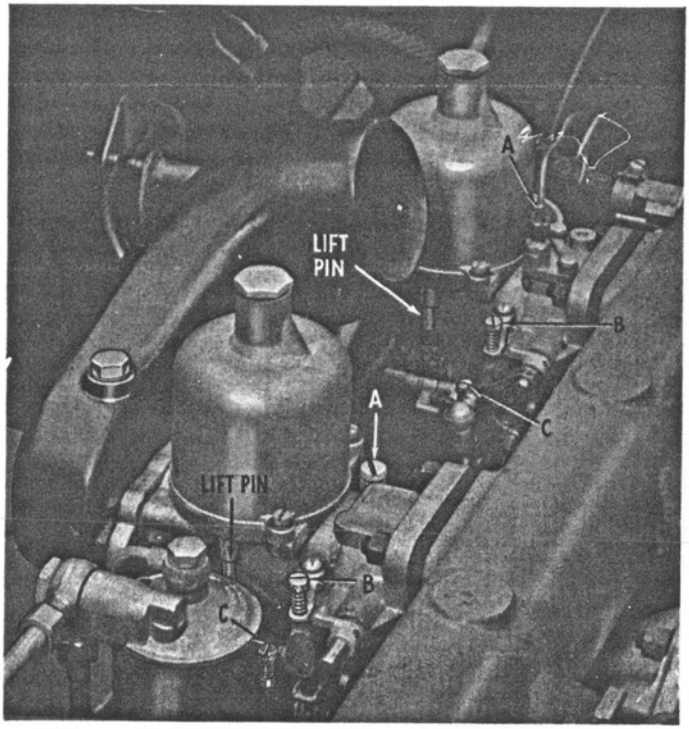


FIG. 8 CARBURETTORS ADJUSTING SCREWS

NO ATTEMPT SHOULD BE MADE TO EFFECT TUNING OR ANY OTHER APPARENT IMPROVEMENT BY DISTURBING THE LINKAGE SETTINGS.

Normally, adjustment should be confined to the maintenance of a satisfactory slow running, although eventually some benefit may be derived from adjustment of the cold starting throttle opening or mixture strength.

Fig. 10 shows the screw type adjuster "A", "B" and "C", all of which are readily accessible from above after releasing and raising the bonnet.

Slow Running Adjustment

SLOW RUNNING SHOULD BE MAINTAINED AT THE LOWEST SPEED CONSISTENT WITH SMOOTH RUNNING AND ON NO ACCOUNT SHOULD EXCEED 400 R.P.M.

The screws "A" regulate the quantity of mixture by-passing the throttles for slow running. Adjustment should be made as follows :—

(1) With the selector lever in "Park", warm up the engine to working temperature.
(2) Apply a screwdriver and adjust both screws "A" by an equal amount—say quarter of a turn. Screw "IN" (clockwise) to reduce speed—"OUT" (anti-clockwise) to increase speed.

Cold Starting Throttle Adjustment

The adjuster screws "B" determine the amount of throttle opening at full operation of the "Mixture" control; adjustment should rarely be necessary. However, a change to engine oil of different viscosity or sustained operations in different climates may warrant a little adjustment to maintain a satisfactory engine speed under cold starting conditions.

To Adjust

(1) Pull out the mixture control to its fullest extent.
(2) Start up the engine from cold; screw the adjusters "B" IN to increase and OUT to decrease speed.

Mixture Strength

Correct mixture strength is obtained at slow running by means of the adjusters "C" and thereafter remains correct for all speeds by virtue of the carburettor needle form.

Symptoms of the necessity for adjustment are readily detected by observation of the exhaust beat with the engine slow running and the "MIXTURE" control out of engagement. An irregular beat with a "splashy" type of misfire indicates a weak mixture and a regular or rhythmical misfire accompanied by a blackish discharge—a rich mixture.

If adjustment is considered necessary, and provided the carburettors are equally weak or rich, satisfactory results will be obtained by turning the screws "C" an equal amount IN (clockwise), OUT (anti-clockwise) to enrich or weaken the respectively.

"PHASING" THE CARBURETTORS

Initially the carburettors are correctly "in phase", *i.e.*, both carburettors supply an equal amount of correct mixture. Unequal adjustment as between the adjusters "A" or "C" will result in an "out of phase" condition which is particularly noticeable by the difficulty if not impossibility of establishing a smooth slow running.

Restoration to the "in phase" condition necessitates the synchronisation of intake by "sounding" and estimation of the mixture strength by "Observation of Engine Performance". The following procedure should not be lightly undertaken by those not familiar with such adjustments.

Synchronising by "Sounding"

(1) Remove the air intake manifold to expose the mouth of the carburettors.
(2) Thoroughly warm up the engine and establish slow running.

(3) Locate one end of a length of flexible tubing in a definite position at the mouth of one carburettor and listen to the induction "hiss" by placing the other end close to the ear.

(4) Repeat at the other carburettor making sure that the tubing is located exactly the same as for the first carburettor.

The intensity of "hiss" should be identical and any discrepancy can be rectified by adjustment at either of the screws "A".

Observation of Engine Performance

With the tip of the thumb or with a suitable instrument raise one carburettor piston a little—not more than 1/32nd in. and observe the effect on slow running performance :—

(1) A weak mixture will be further weakened and the effect will be a reduction of engine speed.

(2) A rich mixture will be somewhat corrected and the effect will be a noticeable increase of engine speed.

(3) A correct mixture will have no noticeable effect on engine performance.

In the event of a rich or weak mixture the piston should be released, the adjuster "C" turned "OUT" to weaken or "IN" to enrich and the piston again raised. This operation should be continued until the correct mixture is obtained after which the procedure should be repeated at the second carburettor.

After "phasing" replace the air intake manifold and obtain a satisfactory slow running by equal adjustment of the screws "A".

SPECIAL INFORMATION

The carburettors employ a single tubular jet with an output controlled by a jet needle which penetrates the tube to a depth dependent on engine speed. At slow running the circumference of the needle almost equals the jet bore and if not correctly "centred", *i.e.*, concentric with the tube, the needle will bind, causing an excessively fast idle running with a delayed response to the initial opening of the throttle.

The jet tube is a sliding fit in a jet bush which is rigidly secured by a locknut after correct centring on intitial assembly of the carburettors; thus any subsequent binding will almost certainly be due to a faulty needle.

To Test for Binding

(1) Raise the piston by means of the spring loaded lift pin located on the underside of the suction chamber flange.

(2) Release the pin. If correctly centred the piston should be distinctly heard to strike the carburettor bridge.

If centring is considered necessary the carburettor needle should be examined and renewed if damaged.

To Remove the Needle

(1) Remove the three screws and lift off the suction chamber.

(2) Carefully lift out the piston to avoid damaging the needle.

(3) Slacken the recessed lockscrew and withdraw the needle.

Continued binding after fitting a new needle calls for disturbance of the jet assembly which should be regarded as a Service operation.

Maintenance—Every 3,000 Miles (4,800 Km.)

(1) Remove the damper caps from the top of the suction chambers and top up with clean engine oil to within approximately ½ in. of the top.

(2) Remove the thimble gauze filters at the float chamber end of the petrol pipe.

(3) Remove the float chambers and wash out any sediment with clean petrol.

(4) Lubricate all linkage joints with oil.

THE AIR SILENCER

The air silencer has a woven mesh air cleaner element incorporated in the air intake or louvred end of the silencer.

Maintenance—Every 6,000 Miles (9,600 Km.)

(1) Remove the silencer, immerse the louvred end in paraffin and clean by swilling.

After draining and drying, the louvred end should be dipped in engine oil and allowed to drain off. Before re-fitting make sure that no neat oil is lodged in the pressings.

OVERSEAS AIR CLEANER

The Vokes Torpedo Silencer air intake filter employs a low pass series acoustic filter comprising a main volume chamber and connected air intake tube as the principal silencing means, with an additional side branch helmzholtz resonator to absorb higher noises. The streamline nose inlet and a large filter area ensures a low pressure drop.

Maintenance

Clean element every 3,000 miles.

Replace element every 9,000 miles.

Service Instructions :—Unscrew and remove wingnut and washer. Pull off the end cover and withdraw the element assembly. Clean by passing a compressed air jet across the folds of the element on the clean side. On no account wash the element in a solvent. Replace the element assembly in the case, refit the cover, replace the washer and wingnut, tighten up firmly.

Fuel Supply

General Description

The petrol is pumped from an 18 gallon tank (including reserve) housed at the rear of the car. A tap is incorporated in the fuel line which makes available the 1¾ gallons in reserve. It is operated by a control on the fascia panel. The petrol pump is an A.C. mechanical type mounted on the left side of the engine, driven by camshaft eccentric. It incorporates a priming lever.

Warning

A "push-pull" tap is incorporated in the petrol line at the feed end of the flexible pipe to the petrol pump. CLOSE THIS TAP BEFORE DISCONNECTING EITHER END OF THE FLEXIBLE PIPE by turning clockwise to unlock, then push in.

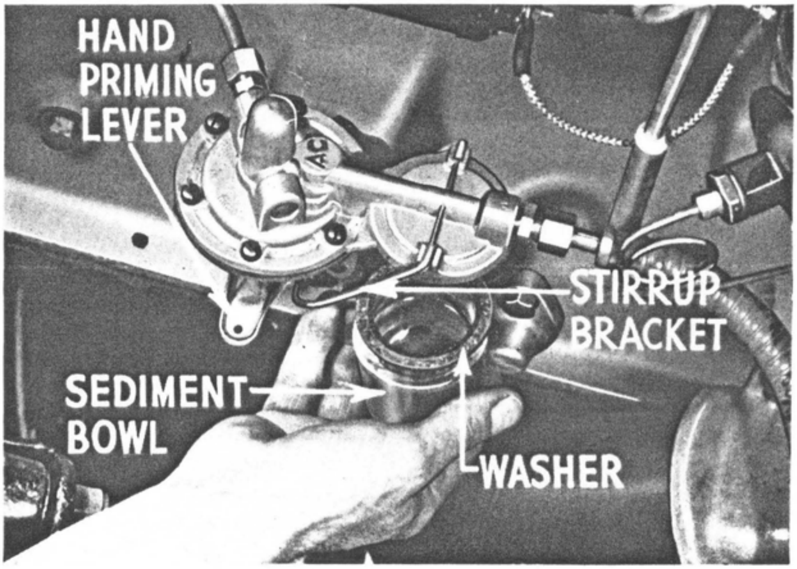


FIG. 9 REMOVING THE SEDIMENT BOWL

Maintenance—Every 6,000 Miles (9,600 Km.)—Clean the Petrol Pump Sediment Bowl

Slacken the hexagon clamp-nut at the base of the glass bowl and swing aside the stirrup bracket. Remove the bowl (placing it carefully on one side to avoid breaking) then remove the cork joint.

The glass bowl should be thoroughly washed in clean petrol. Before refitting, examine the cork joint to see if this is in good condition; if not, fit a new joint. Replace the joint, making sure that the fine-mesh gauze is properly held in position by the joint, then holding the bowl against the joint, swing the stirrup-clamp back into position and tighten the nut until the bowl is fixed securely.

Checking

Check that the petrol pump is functioning correctly by working the hand priming lever, noting the amount of petrol that is pumped from the pipe at the outlet side of the pump.

If it is suspected that the petrol pipes have dirt in them, blow through the pipes with the aid of a tyre pump.

Examine the pipe line from the petrol tank to the reserve tap, and from the tap to the pump, for air leaks and loose connections. Tighten up where necessary.

Ignition

A 12-volt Lucas coil and distributor ignition system is used. The distributor incorporates an automatic advance and retard mechanism and a vacuum control. In addition a micrometer adjustment is fitted to provide for altered conditions such as carbonisation and varying grades of fuel.

Distributor Shaft Greaser
Maintenance—Every 1000 Miles (1600 Km.)

The distributor shaft grease drum should be given one half turn every 1,000 miles, and should be refilled with the recommended grease (Acheson's graphited grease grade GC or its equivalent) when it has reached the limit of its travel.

Maintenance—Every 6,000 Miles (9,600 Km.)
The Cam

The distributor cam faces should be smeared with a little grease or engine oil.

The Cam Bearing

Remove the rotor arm by pulling up from the spindle. Put a few drops of engine oil inside the cavity on top of the spindle; the oil will penetrate to the bearing beneath. Do not remove the slotted screw exposed; there is a clearance between the screw and the inner face of the cam spindle through which the oil will pass. Replace the rotor arm correctly—by locating the boss inside the rotor with the slot in the spindle head—and push it down as far as it will go. Incorrect fitting can result in the burning or "tracking" of the distributor cap.

Contact Breaker Pivot

Put a small amount of grease or oil on the pivot on which the contact breaker lever works. Do not allow the lubricant to get on or near the contacts.

Distributor—Cleaning

Wipe the inside and the outside of the moulded distributor cap with a soft dry cloth, paying particular attention to the spaces between the terminals. See that the small carbon brush on the inside of the cap works freely in its holder.

Next examine the contact breaker. The contacts must be free from oil or grease. If they are burned or blackened, clean them with a fine carborundum stone or a piece of very fine emery cloth. Afterwards wipe away all traces of dirt or metal dust with a cloth moistened with petrol. The cleaning of the contacts is made easier by removing them from the distributor. To do this, remove the nut, insulating piece and connections from the post to which the end of the contact breaker spring is anchored. The contact breaker lever can now be lifted from its pivot. Remove the fixed contact plate by unscrewing the two screws.

Reassemble in the reverse order, but leave the fixing screws loose for adjustment. Rotate the engine until the fibre heel of the moving contact is on one of the high points of the cam. Adjust the gap to ·014/·016 in. by means of the slotted adjuster. When the correct gap has been obtained, tighten the two fixing screws.

The Coil

The ignition coil requires no attention beyond keeping the outside clean, particularly between the terminals, and occasionally checking that the terminal connections are tight.

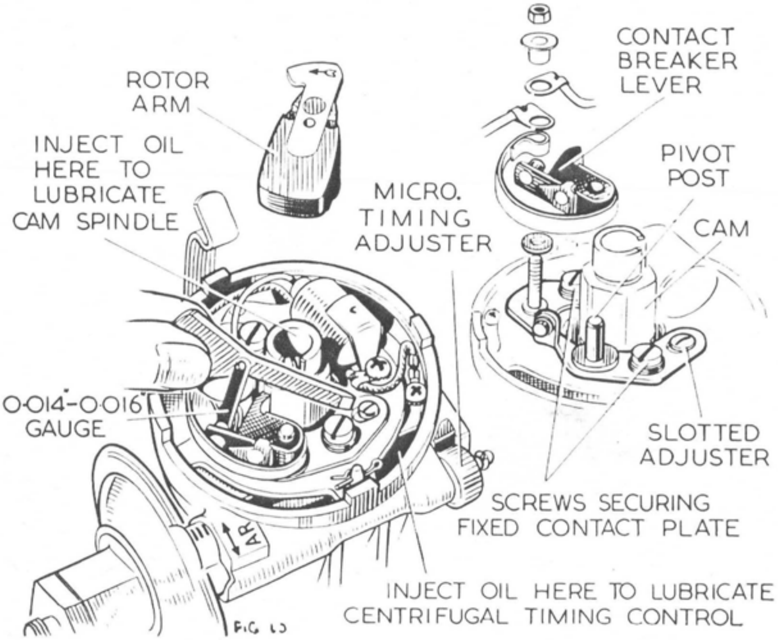

CONTACT BREAKER LEVER
ROTOR ARM
PIVOT POST
INJECT OIL HERE TO LUBRICATE CAM SPINDLE
MICRO. TIMING ADJUSTER
CAM
0·014"-0·016" GAUGE
SLOTTED ADJUSTER
SCREWS SECURING FIXED CONTACT PLATE
AR
INJECT OIL HERE TO LUBRICATE CENTRIFUGAL TIMING CONTROL
FIG 13

FIG. 10 DISTRIBUTOR WITH CAP REMOVED

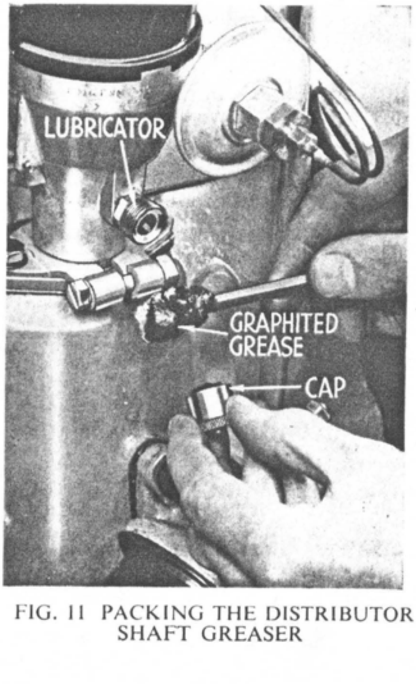


FIG. 11 PACKING THE DISTRIBUTOR SHAFT GREASER

The Ignition Switch and Warning Light

The ignition switch, besides forming a means of stopping the engine, is provided for the purpose of preventing the battery from being discharged by current flowing through the coil windings when the engine is stopped. A warning lamp is provided on the instrument panel which shows a red light when the engine is stationary, thus reminding the driver to switch off.

A burnt out warning lamp will not affect the ignition system in any way, but the bulb should be replaced as soon as possible.

SPARKING PLUGS

(Recommended Type—Lodge C.L.N.H.)

The points gap should be maintained at ·025 in. (·64 mm.). To adjust, bend the point; never displace the central electrode. Clean with a wire brush. As an economy, the plugs should be replaced every 10,000 miles.

IGNITION TIMING

To Check and Reset

Turn the engine until the timing mark on the crankshaft damper registers with the edge of the fixed timing indicator see Fig. 12, this is just before Top Dead Centre position of the piston in No. 1 cylinder (this can be verified by checking that the

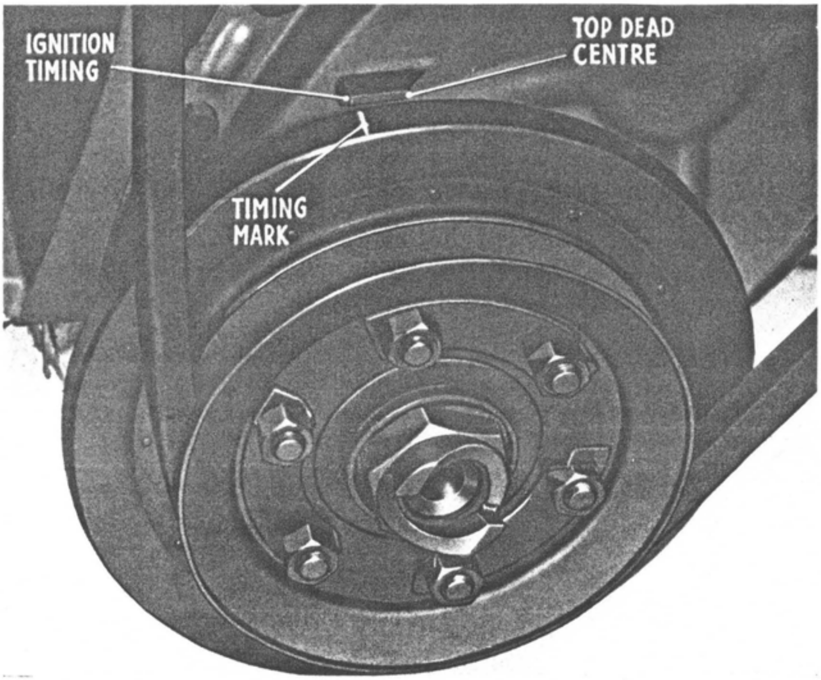


FIG. 12 SETTING FOR IGNITION TIMING

valves of No. 1 cylinder are closed). Remove the distributor cap and check that the contact points are just opening, with the rotor pointing towards the segment inside the cap to which the cable of No. 1 sparking plug is connected. The above setting is for premium grade fuels. If lower grade fuels are used, some retardation of the advance will be necessary.

If the Ignition Timing has been deranged, it can be reset by the following method:—

With No. 1 piston at the firing position (as explained above) and the distributor cap removed, slacken the clamp-plate bolt below the distributor body and turn the distributor until the contact breaker points are just commencing to open with the micro-adjuster set at zero. Re-tighten the clamp-plate to fix the distributor in this position.

RENEWING A HIGH TENSION CABLE

The high tension cables are the thick cables connecting the distributor to the ignition coil and the sparking plugs. When these cables show signs of perishing or cracking, they should be replaced by 7 mm. high tension ignition cable. The method of connecting the cable is to thread the knurled nut over the cable, bare the end of the cable for ⅛ in. (3·175 mm.) up, pass the wire through the brass washer provided, and bend back the strands.

The Cooling System

Cooling of the engine is effected by fan and water pump driven from the crankshaft by a "V" belt. The centrifugal type water pump is mounted with a four-blade fan on a spindle supported by two ball bearings. These ball bearings are prepacked with grease and require no further attention. A special sealing gland prevents water leaking from the pump.

The cooling system also includes a thermostat, the purpose of which is to control the temperature of water. When the engine is cold the thermostat is closed, so that a restricted circulation takes place around the engine only, and not through the radiator. This allows the engine to warm up rapidly to its proper working temperature, at which point the thermostat opens and permits normal water circulation through the radiator.

The normal running temperature is 170 *deg. to* 190 *deg. F.* (76·7 *deg. to* 87·8 *deg. C.*).

Maintenance—Lubrication—Every 3,000 Miles (4,800 Km.)

There is only one lubricating nipple on the water pump. Grease should be applied with a grease gun until an excess is seen to exclude from the overflow hole beside the nipple.

Adjustments to Fan Belt

To adjust the tension of the fan belt, slacken the bolt which clamps the dynamo bracket to the adjusting arm. Swing the dynamo until the slackness in the belt is taken up. The belt tension is correct when it can be moved about ¾ in. (19·05 mm.) at a point midway between the pulleys. See Fig. 5, page 22.

DRAINING THE SYSTEM

The cooling system is drained by one tap and two drain plugs, the tap for the radiator is accessible from under and rearwards of the front bumper see Fig. 15 the plugs are to the rear of the engine, one on the manifold and one at the lower part of the cylinder block see Fig. 14.

Draining will be facilitated by removing the radiator filler cap.

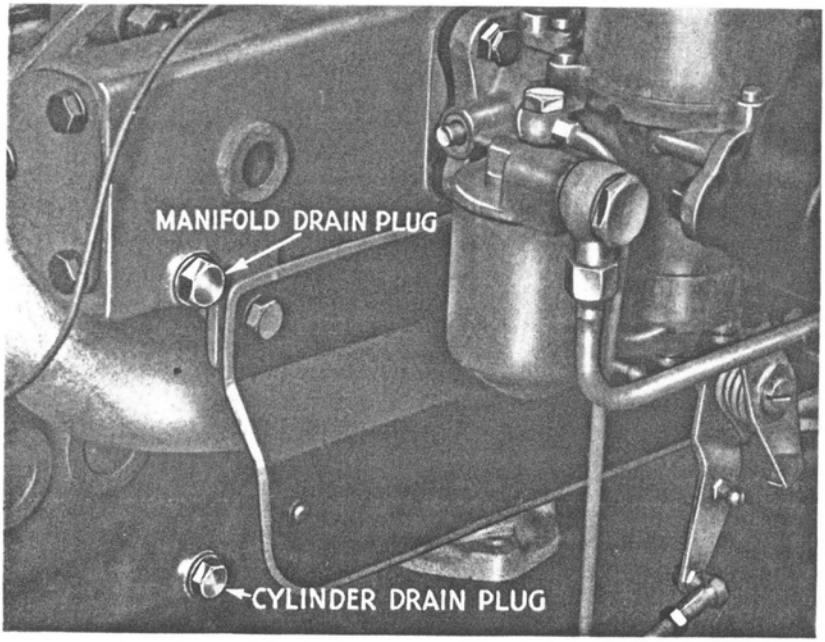


FIG. 14 ENGINE DRAIN PLUGS

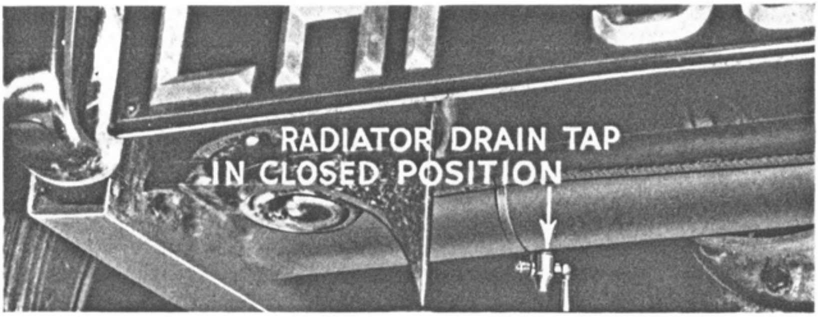


FIG. 15 RADIATOR DRAIN TAP

FROST PRECAUTIONS

Caution

On draining the system some of the water remains lodged in the heater element making the practice of draining the system as a frost precaution unsatisfactory. Therefore, to avoid damage to the heater equipment :—

ANTI-FREEZE MUST BE USED FOR WINTER CONDITIONS

The following table (in terms of percentage of the water capacity) indicates the amount of anti-freeze necessary for varying degrees of frost.

To protect for	20	degrees of frost add	12½%
,, ,, ,,	30	,, ,, ,, ,,	17½%
,, ,, ,,	40	,, ,, ,, ,,	22½%
,, ,, ,,	50	,, ,, ,, ,,	27½%
,, ,, ,,	60	,, ,, ,, ,,	32½%
,, ,, ,,	70	,, ,, ,, ,,	37½%

Maintenance

Check the water level daily and top up if necessary.

Note : In Winter time, steps should be taken to ensure that repeated topping up does not unduly weaken the anti-freeze solution.

Warning

The cooling system is pressurised to about 4 lb./sq. in.
REMOVE THE FILLER CAP SLOWLY.

Maintenance of Correct Running Temperature in Cold Weather

In very cold weather it may be found that the engine does not reach its normal running temperature of 170 deg. to 190 deg. F. (76·7 deg. to 87·8 deg. C.). This is not desirable, and it is therefore recommended to fit a radiator muff, by means of which, part of the radiator can be blanked off.

Thermostat

By restricting the water circulation when the engine is cold the thermostat makes rapid warming up possible. If it is suspected that the thermostat is not functioning properly, a simple check can be made as follows :—

Drain the radiator, then remove the top water hose and the water pipe by unscrewing the flange bolts. The thermostat can now be lifted out. Place the thermostat in a pan of cold water and heat over a stove. As the temperature of the water rises the thermostat should gradually open. Check also that it closes gradually to the fully closed position when the water is allowed to cool down. If it still does not function correctly, fit a replacement.

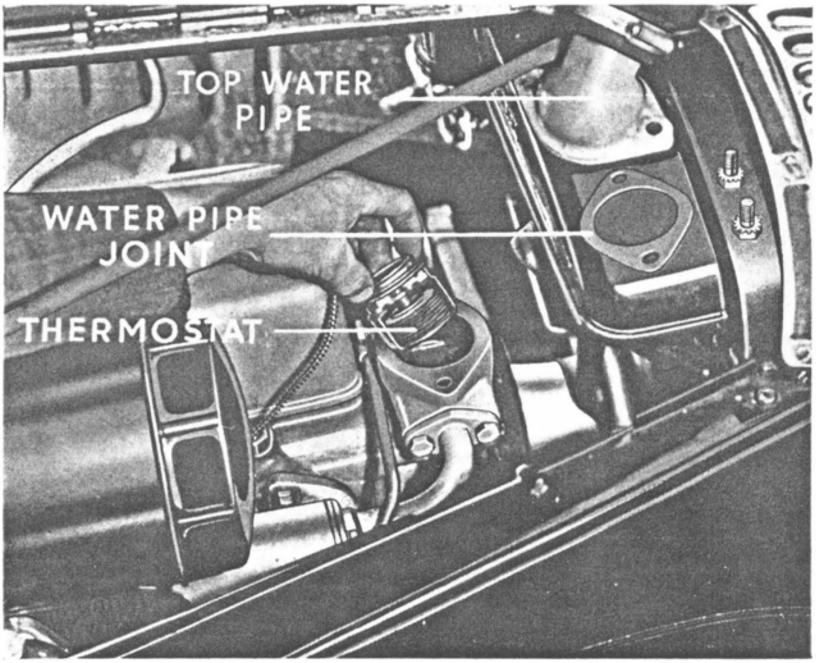


FIG. 16 REMOVING THE THERMOSTAT

Automatic Transmission

Maintenance .... page 40

Governor and Selector Control Adjustment 43

Ratios 19

Operation 16

The Automatic Transmission

IMPORTANT

Cleanliness is imperative. No dirt, foreign matter or water must be allowed to enter the transmission, otherwise serious trouble may be experienced. Before removing the dipstick the surrounding area must be thoroughly cleaned to prevent dirt entering the hole when the dipstick is removed. When replenishing with fluid, be sure that the funnel and container are scrupulously clean.

Maintenance

Every 3,000 miles (5,000 km.) **check the Transmission Fluid Level**

Proceed as follows :—

(1) With the car on a level floor, apply the handbrake firmly, start the engine and place the selector lever in LOW. Run the engine at idling speed until it reaches normal operating temperature.

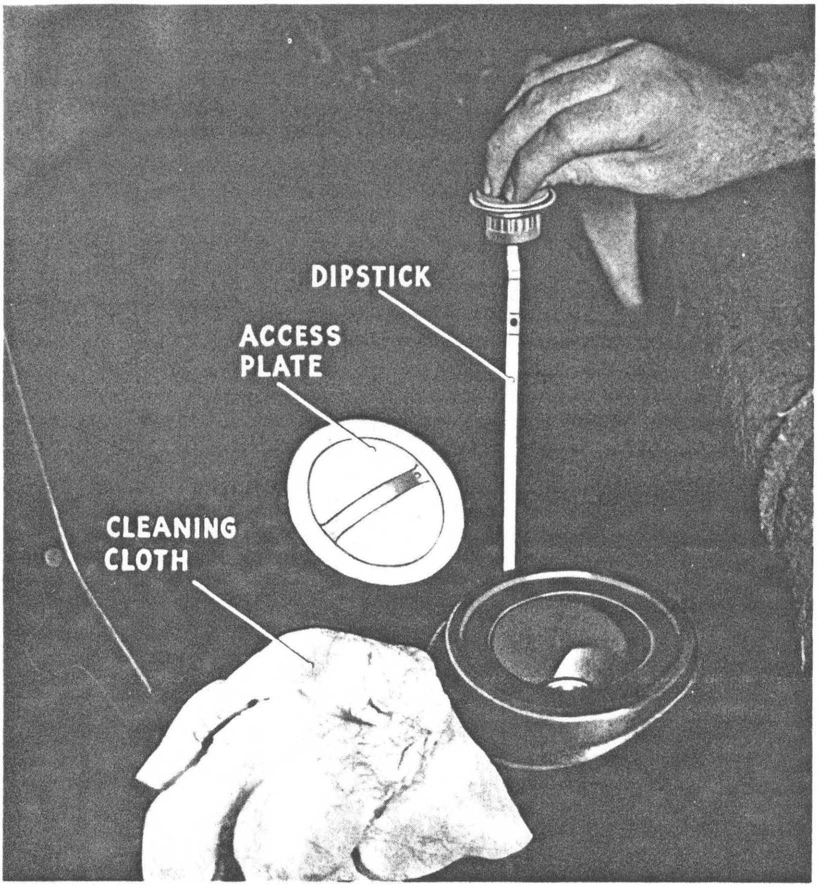


FIG. 17 CHECKING TRANSMISSION OIL LEVEL

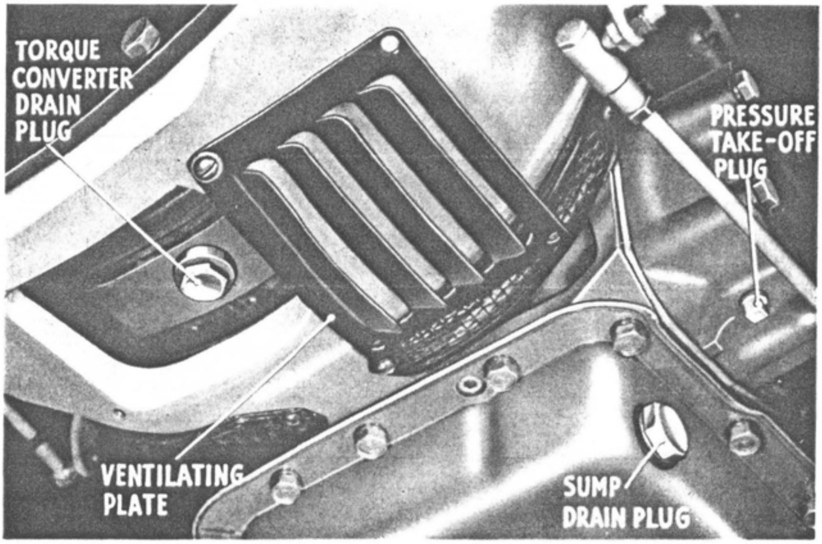


FIG. 18 TRANSMISSION DRAIN PLUGS

(2) Turn back the carpet, remove the access plate and clean the area round the dipstick hole before removing the dipstick.

(3) Remove and wipe the dipstick with a non fluffy rag.

(4) Switch off the engine and immediately check the oil level with the dipstick.

(5) Add fluid to bring level up to "Full" mark if necessary.

DO NOT OVERFILL

Every 6,000 miles (10,000 km.) oil all control joints and bearings with engine oil.

Every 30,000 miles (50,000 km.) Drain and Refill the Transmission.

Proceed as follows :—

6) With the car on a level floor, set the handbrake firmly. Start the engine and place the selector lever in LOW. Run the engine at idling speed until it reaches normal operating temperature.

(7) Stop the engine. Clean the area round the drain plug located on the left-hand side of the transmission oil pan. Remove plug and drain oil into a container.

(8) Remove the ventilation plate at the bottom of the torque converter housing and rotate the torque converter until the drain plug is at the bottom. Clean the area round the plug and remove to drain fluid.

(9) Remove the torque converter pressure take-off plug located immediately above the oil pan plug to facilitate draining the torque converter.

(10) Clean oil filter every 60,000 miles (100,000 km.).

(11) After the fluid has been drained, clean and refit the torque converter plug securely and replace the ventilating plate. Clean and securely refit the torque converter pressure take-off plug, tighten to 8/10 lbs. ft. (1·1/1·4 kg.m.) and tighten the oil pan drain plug, to 35/45 lbs. ft. (5·0/6·5 kg.m.).

(12) Remove the dipstick (see items 2 and 3 under checking fluid level).

(13) Pour in 10 pints (6 litres) of a recommended transmission fluid.

(14) Start the engine and allow it to idle for one minute with the selector lever in LOW, to refill the torque converter.

(15) With the engine still idling slowly, add enough oil to bring the level up to the Full mark on the Dipstick. Approximately another 5 pints (3 litres will be required.

(16) Stop the engine and immediately re-check the oil level. Use only the recommended lubricants on page 83.

Governor and Selector Control Adjustment

(See Fig. 19)

Selector Control Adjustment

Control rods must be adjusted to allow selector quadrant markings to coincide with the indents on selector valve in gearbox. Selector lever should be ·01 in. clear of gate in NEUTRAL, DRIVE and LOW operating position, and ¼ in. clear in REVERSE to allow for slight deflection in control mechanism, when releasing parking pawl. When selector lever is in DRIVE position, bellcrank levers on dash and frame should be at an angle of approximately 90° to control rods, as shown on diagram.

SETTING OF STARTER CIRCUIT BREAK SWITCH

Switch should make contact when selector is in NEUTRAL and PARK, and should break circuit in all other positions.

SETTING OF REVERSE LIGHT SWITCH

Switch should make contact when selector lever is in REVERSE and should break circuit in all other positions.

Governor Control Adjustment

With the carburettors properly adjusted (see page 27), when throttle is closed governor control lever on gearbox must be clear of the stop at its rearward movement. Hand throttle control pin must be ·05 in. clear of lever on control shaft with hand control shut.

Operate the accelerator pedal until throttle is fully open, and accelerator levers on linkage abut.

Operate the accelerator further until pedal reaches accelerator pedal stop. The gap between the throttle over-ride lever and accelerator lever should now measure ·15 in. In this position control rods to governor control lever on gearbox must be adjusted so that the lever on gearbox is on its maximum travel stop.

The movement of the pin on the lever on the gearbox corresponding to movement on linkage from throttle full open to throttle over-ride position should be 5/16 in. measured in line with transmission.

Setting up Carburettor and Governor Controls after Dismantling

(1) Set the hand throttle lever against its open stop. Pull out the hand control knob on panel 1½ in. and connect the hand throttle control wire.

(2) Push in the hand control knob, and set control shaft lever on body scuttle to give hand throttle pin clearance of ·05 in.

(3) Adjust rods between throttle levers and accelerator levers so that both throttle valves are fully shut with connecting bar in position, and ·015 in. clear of open stop on carburettor when accelerator levers abut at throttle full open position.

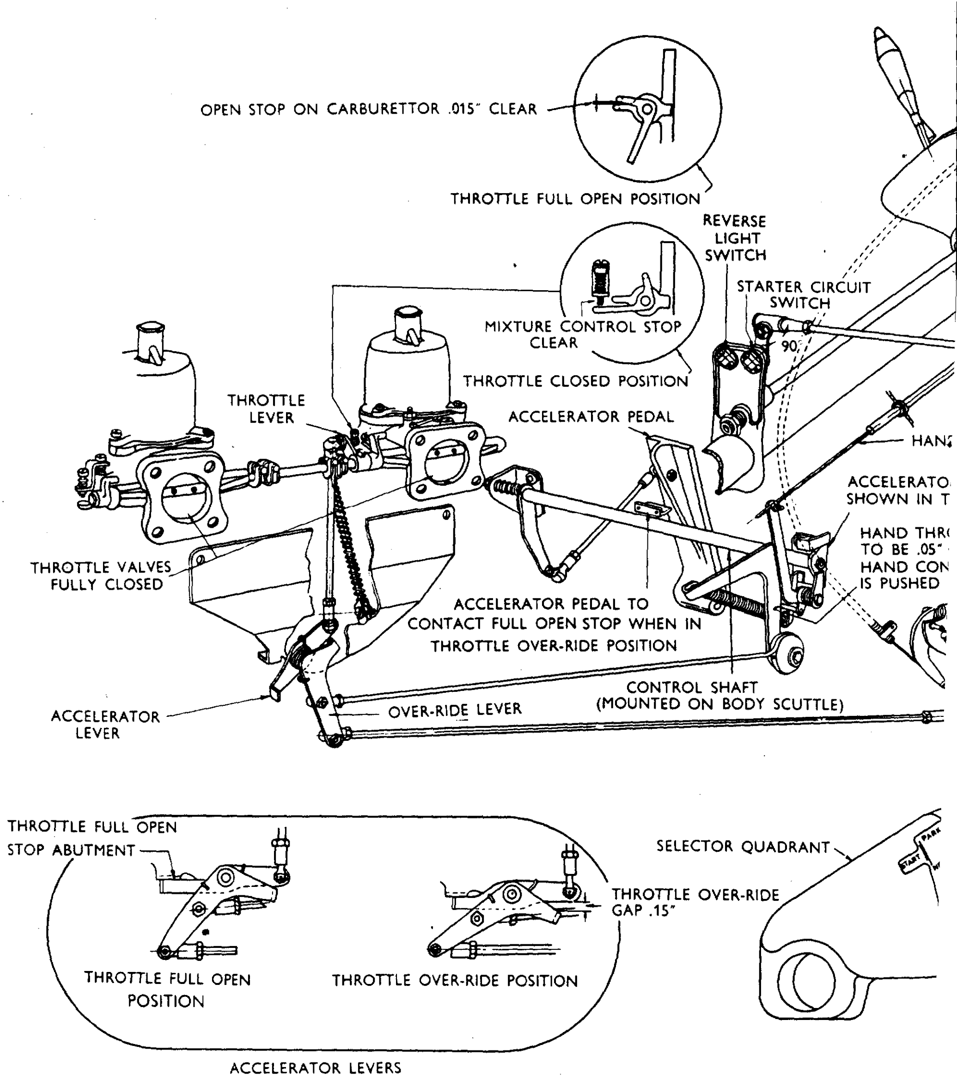
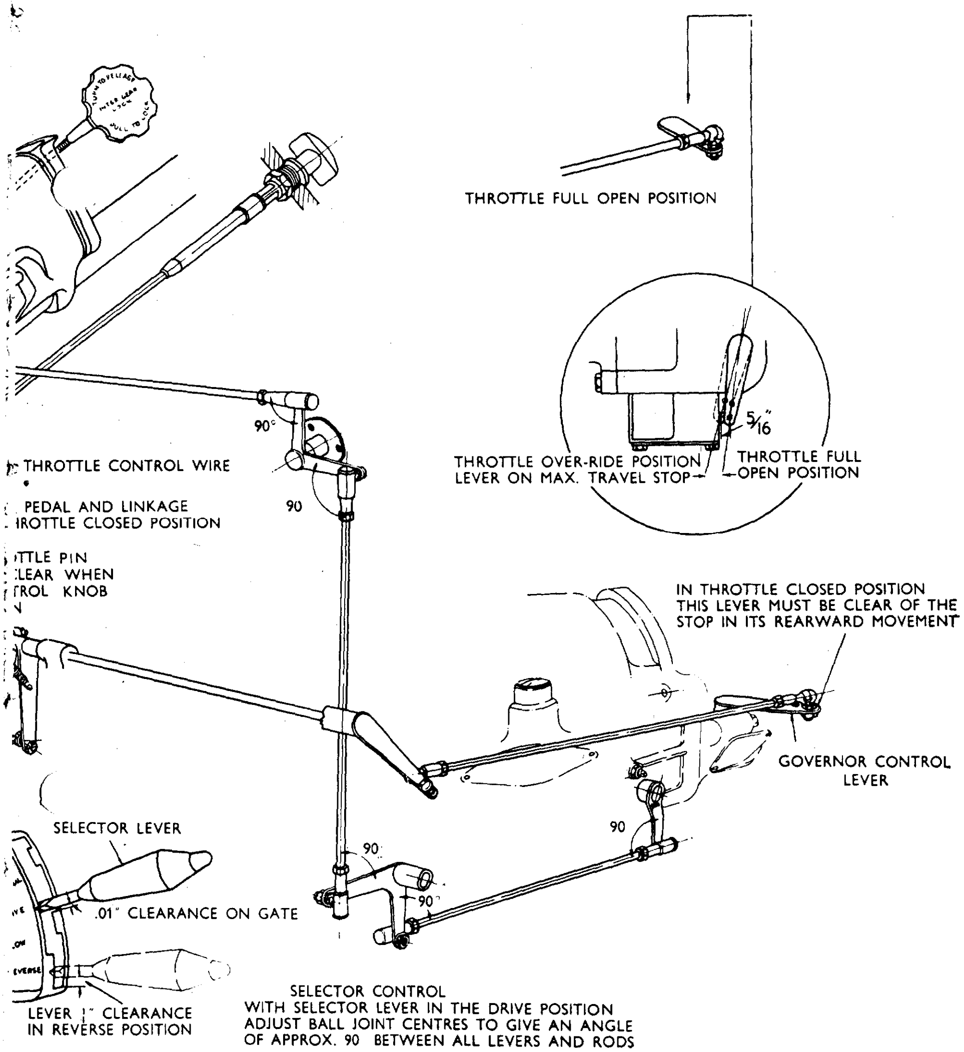

OPEN STOP ON CARBURETTOR .015" CLEAR
THROTTLE FULL OPEN POSITION
REVERSE LIGHT SWITCH
STARTER CIRCUIT SWITCH
90°
MIXTURE CONTROL STOP CLEAR
THROTTLE CLOSED POSITION
THROTTLE LEVER
ACCELERATOR PEDAL
HAN
ACCELERATO
SHOWN IN T
HAND THR
TO BE .05"
HAND CON
IS PUSHED
THROTTLE VALVES FULLY CLOSED
ACCELERATOR PEDAL TO CONTACT FULL OPEN STOP WHEN IN THROTTLE OVER-RIDE POSITION
CONTROL SHAFT (MOUNTED ON BODY SCUTTLE)
ACCELERATOR LEVER
OVER-RIDE LEVER
THROTTLE FULL OPEN STOP ABUTMENT
SELECTOR QUADRANT
PARK
START
THROTTLE OVER-RIDE GAP .15"
THROTTLE FULL OPEN POSITION
THROTTLE OVER-RIDE POSITION
ACCELERATOR LEVERS

FIG. 19 GOVERNOR AN


THROTTLE FULL OPEN POSITION
5/16"
THROTTLE OVER-RIDE POSITION
LEVER ON MAX. TRAVEL STOP
THROTTLE FULL
OPEN POSITION
THROTTLE CONTROL WIRE
90°
90
PEDAL AND LINKAGE
IROTTLE CLOSED POSITION
ITTLE PIN
LEAR WHEN
TROL KNOB
N
IN THROTTLE CLOSED POSITION
THIS LEVER MUST BE CLEAR OF THE
STOP IN ITS REARWARD MOVEMENT
GOVERNOR CONTROL
LEVER
SELECTOR LEVER
90
90
90
.01" CLEARANCE ON GATE
LEVER 1" CLEARANCE
IN REVERSE POSITION
SELECTOR CONTROL
WITH SELECTOR LEVER IN THE DRIVE POSITION
ADJUST BALL JOINT CENTRES TO GIVE AN ANGLE
OF APPROX. 90 BETWEEN ALL LEVERS AND RODS

SELECTOR CONTROL ADJUSTMENTS

(4) With throttle shut connect and adjust push rod connecting control shaft to over-ride lever on rear accelerator lever.

(5) Connect and adjust rod between accelerator pedal and control shaft lever so that accelerator pedal contacts full movement stop when depressed to throttle over-ride position.

(6) Connect and adjust rods to governor control lever as given under governor control adjustment.

Transmission Shaft and Suspension

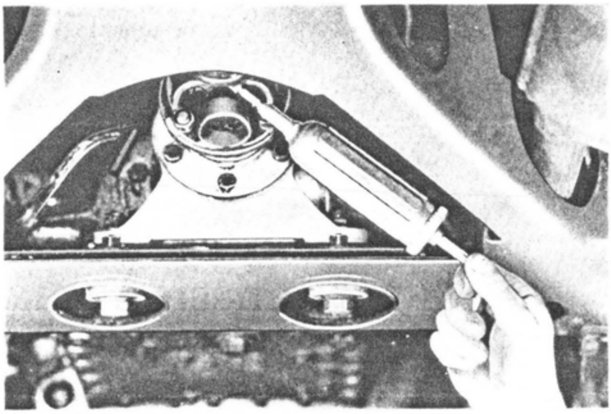
Propeller Shaft .... page 49

Rear Axle 49

Front and Rear Suspension 50

Hubs 51

FIG. 20
LUBRICATING
FRONT
UNIVERSAL
JOINT



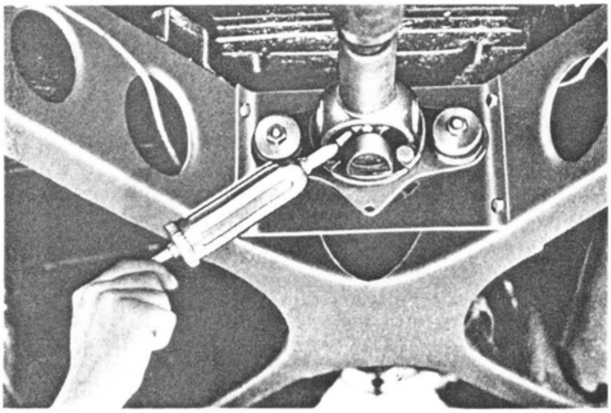


FIG. 21
LUBRICATING
CENTRE
UNIVERSAL
JOINT

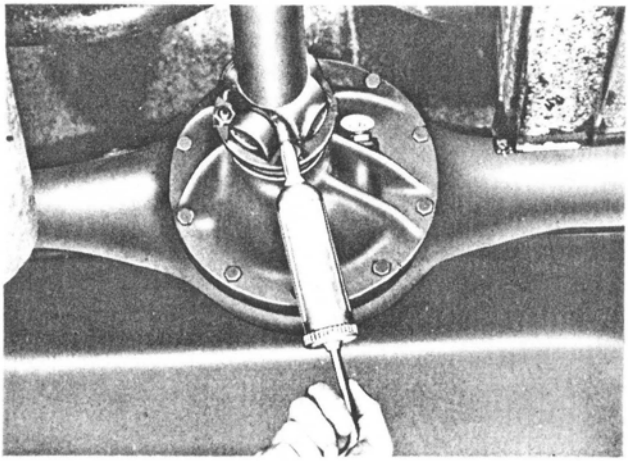


FIG. 22
LUBRICATING
REAR
UNIVERSAL
JOINT

The Propeller Shaft

A divided Hardy Spicer propeller shaft is used to transmit the drive from the gearbox to the rear axle.

A flexibly mounted centre bearing, three needle roller bearing universal joints and a sliding spline allow for rise and fall of the rear axle.

Maintenance—Every 1,000 Miles (1,600 Km.)

There is a lubrication nipple on each universal joint and one on the sliding spline at the forward end of the rear portion of the propeller shaft. Lubricate the sliding spline and the three universal joints with oil. The centre bearing is pre-packed with grease and requires no further attention.

The Rear Axle

The rear axle is of the "Hypoid Bevel" type, for ratio see page 20.

Maintenance—Every 3,000 Miles (4,800 Km.)—for recommended lubricants see page 83.

Check the level of the oil in the rear axle.

(*a*) Remove dipstick and check level.

(*b*) If necessary, top up with new oil.

(*c*) Replace filler plug and dipstick.

Every 6,000 Miles (9,600 Km.)

Change the oil in the rear axle. This is best carried out when the oil is warm; that is, after a run.

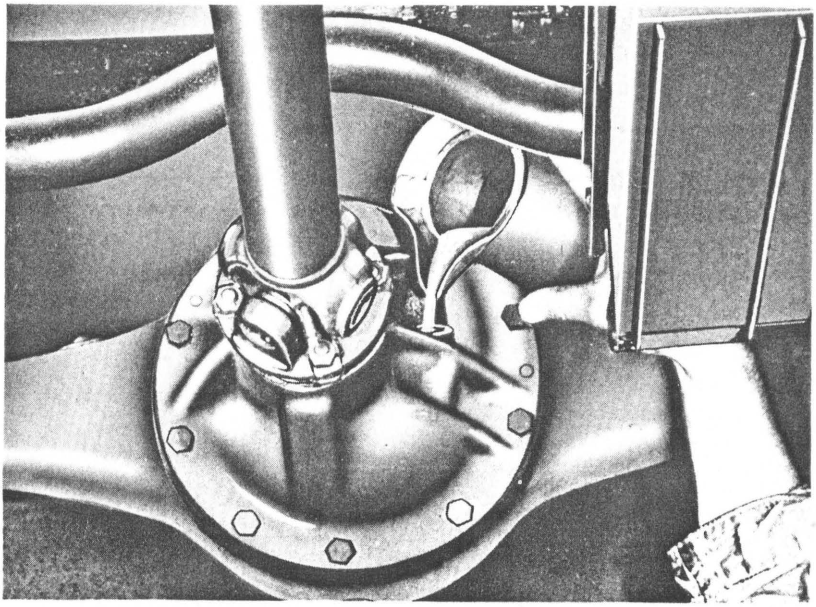


FIG. 23 TOPPING UP THE REAR AXLE

(*a*) Place a container with a capacity exceeding 3 pints beneath the rear axle and remove the drain plug.

(*b*) Remove the rear axle filler plug.

(*c*) Replace the drain plug and refill the rear axle to the mark on the dipstick, about 3 pints.

(*d*) Replace the filler plug.

Front and Rear Suspension

(1) Front suspension. This is the Daimler independent type employing swinging arms and coil springs. A transverse anti-roll bar is fitted at the front.

(2) Rear suspension is by semi-elliptic leaf springs.

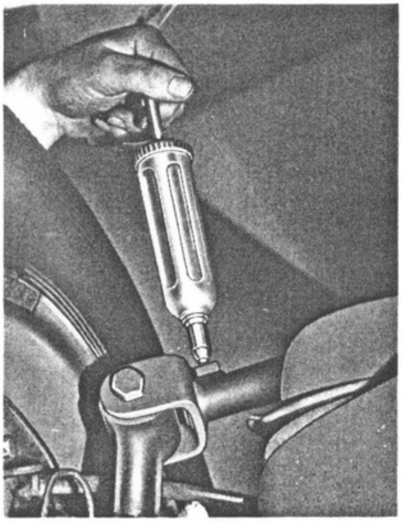


FIG. 24 GREASING THE TOP TRANSVERSE LINK

Maintenance

(1) Front suspension. Due to extensive use of flexible bushes, which require no attention, there are a limited number of lubrication nipples see Period Service Chart under Summary of Maintenance on Page 83.

(2) Rear suspension. The springs should be sprayed with penetrating oil every 3,000 miles (4,800 km.). It is advantageous to do this more frequently during the winter months.

WARNING

Do not allow any oil to be sprayed on the brake discs or the brake pads, these should be protected while the operation is carried out.

No maintenance is normally required to the flexible bushes in the rear springs.

SUSPENSION DAMPERS

Telescopic type dampers are fitted, incorporating bump and rebound stops. **No maintenance or adjustment is normally required.**

The Hubs

The front hubs are mounted on two taper roller bearings, the rear on large journal bearings.

Maintenance

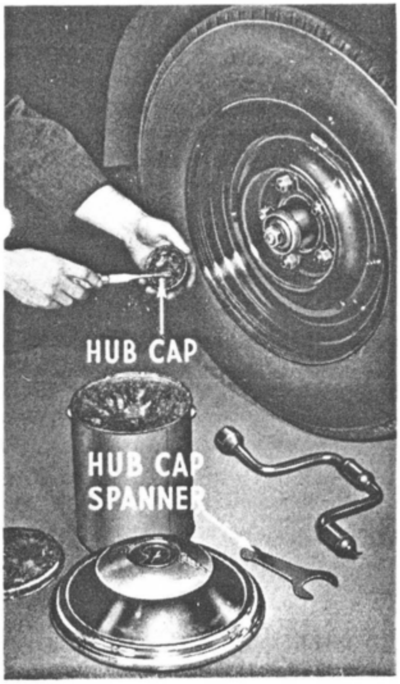
Lubrication —Every 12,000 Miles (19,200 Km.)

Front Hubs

(1) Remove the cover plate from the wheels by inserting the tool provided behind the outer rim and twisting.
(2) Remove the hub-cap with the spanner provided in the tool kit.
(3) Check that the hub contains sufficient grease. If necessary pack the hub cap half full with grease.
(4) Replace and tighten cap.
(5) Replace wheel cover by locating it against the three buttons in the centre of the wheel and giving it a sharp tap with the hand.

Rear Hubs—Every 3,000 Miles (4,800 Km.)

(1) Remove the cover plates from the rear wheels.
(2) Give three or four pumps with the grease gun to the grease nipple.
(3) Replace the cover plates.



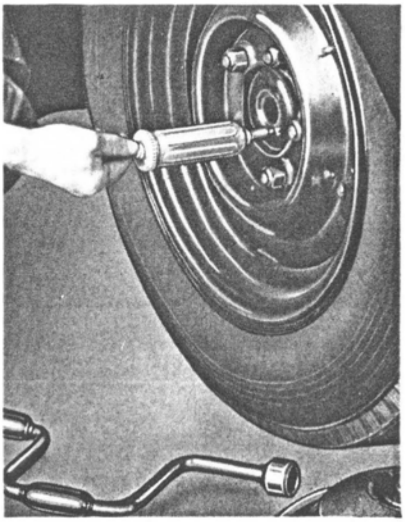


FIG. 25 LUBRICATING FRONT HUB

FIG. 26 LUBRICATING REAR HUB

Use parts of genuine Daimler manufacture **only** when making a replacement.

Genuine Daimler spare parts are stocked by Daimler distributors and dealers in most important centres.

The Steering

Maintenance .... page 54
Adjusting Front Wheel Toe-in 54

The Steering

A Burman Recirculating type steering box is fitted and the track rod is divided in the centre to ensure maintenance of accurate steering geometry, whilst allowing for the independent movement of the front wheels.

The spring-spoked steering wheel is mounted on a telescopic column which is adjustable for length, and can be locked in any position within its range of movement by the clamping lever.

Maintenance—Every 3,000 Miles (4,800 Km.)—for recommended lubricants see page 83.

Check the level of the oil in the steering box. Top up to the bottom of the filler plug hole.

Adjustment

To adjust the position of the steering wheel, pull the clamping lever over. The wheel can then be moved up or down until the most comfortable position is found. Then lock with clamping lever, which should never be left in the open position. An adjusting nut is provided for the clamping lever and should be set so that the lever is as tight as possible, allowing just sufficient tension to close the lever.

Adjusting Front Wheel Toe-in

Toe-in is the arrangement whereby the front wheels are turned slightly inwards so that the distance between them at the front part of the rims is a fraction less than at the rear. The degree of toe-in measured at the height of the wheel centres should be ⅛ in. (3·175 mm.). The car must be standing on its wheels when this measurement is taken. Should adjustment be necessary, proceed as follows :—

(1) Jack up the front of the car until the wheels are clear of the ground.

(2) Set the steering wheel in the straight ahead position by counting the turns of the wheel from lock to lock, then turning back half way. The drop arm will now be in the central position.

(3) Check that the idler pivot on the centre line of the chassis frame is straight on the centre line. To adjust, release the locknuts at each end of the tie rod (one right-hand thread, one left-hand thread), and turn the rod until the correct position is obtained. Tighten the locknuts.

(4) Spin the two front wheels to ascertain they are not buckled. Lower the front of the car on to the ground, and roll the car back or forward to enable the wheels to take up their normal position.

(5) Adjust the toe-in by releasing the locknuts on each track rod, and turning the rods until the correct degree of toe-in is obtained. It is essential that the track rods are set to equal length.

(6) Tighten up the locknuts and re-check.

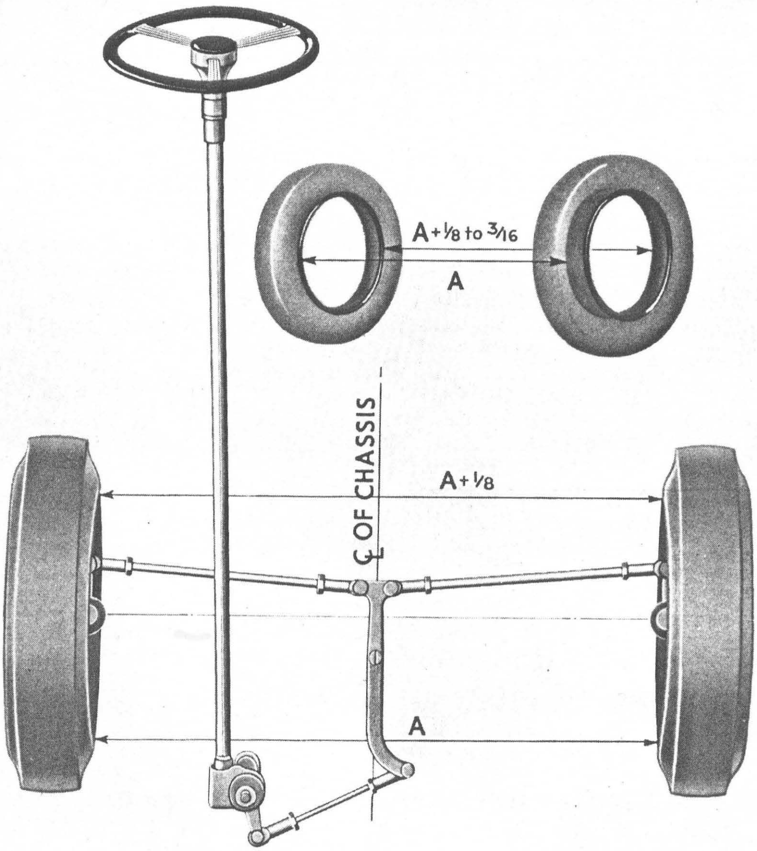


FIG. 27 METHOD OF FRONT WHEEL ALIGNMENT

Use parts of genuine Daimler manufacture **only** when making a replacement.

Genuine Daimler spare parts are stocked by Daimler distributors and dealers in most important centres.

The Brakes

Maintenance .... page 59

Adjustment 58

Bleeding the Hydraulic System 59

Diagram of Brake Layout 60

The Disc Type Brakes

The brake system consists of four caliper type disc brakes hydraulically controlled by means of a foot operated master cylinder and a vacuum servo unit.

Separate brakes mounted on the rear calipers are mechanically operated on the rear discs by the handbrake lever.

Adjustment

The foot brake adjustment is automatic during the wearing life of the pads.

The pads are fully worn at ¼ in. thick and should be renewed before this condition occurs.

To reset the handbrake

(1) Scotch the front wheels in both directions.
(2) See that the transmission is out of PARK and in NEUTRAL.
(3) Jack up and remove rear wheel.
(4) Tighten the adjuster bolt until the pads are lightly in contact with the disc and then slacken the bolt 1/3 turn.

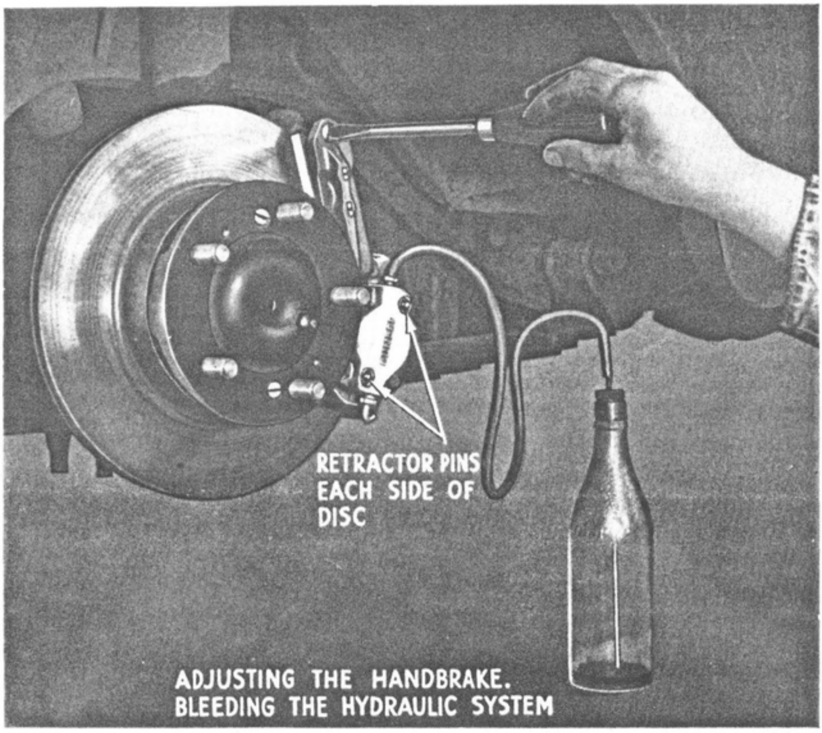


FIG. 28 ADJUSTING THE HANDBRAKE, BLEEDING THE HYDRAULIC SYSTEM

Adjustment to the handbrake can be made without removing the rear wheels, by inserting a screwdriver through the slots in the road wheels and carrying out operation (4) above.

Maintenance—Every 3,000 miles (4,800 Km.)

Check level of fluid in brake reservoir on the front of the body scuttle. The correct level is 1 in. from the top of the filler neck.

WARNING

Use only recommended brake fluid. Page 83.

The brake fluid is injurious to paintwork. Therefore when topping up the reservoir take care to avoid spilling or splashing the fluid on the wings or any cellulosed portion in the area of the reservoir.

On no account must mineral oil be allowed to contaminate the brake hydraulic system.

PRIMING AND BLEEDING THE BRAKE SYSTEM

The following procedure should be adopted either for initial priming of the system or to bleed in service if air has been permitted to enter the system. This latter condition may occur if connections are not maintained properly tightened, or if the master cylinder periodic fluid level check is neglected. During the bleeding operation it is important that the level in the reservoir is kept topped up to avoid drawing air into the system. It is recommended that new fluid be used for this purpose, but when this is not possible the original fluid may be returned to the reservoir, providing it is clean and free from air.

(*a*) Check that all connections are tightened and all bleed screws closed.

(*b*) Fill the reservoir with brake fluid of the correct specification.

(*c*) Attach the bleeder tube to the bleed screw on the near side rear brake and immerse the open end of the tube in a small quantity of brake fluid contained in a clean glass jar. Slacken the bleed screw and operate the brake pedal slowly backwards and forwards through its full stroke until fluid pumped into the jar is reasonably free from air bubbles. Keep the pedal depressed and close the bleed screw. Release the pedal.

(*d*) Repeat for each brake in turn.

(*e*) Repeat the complete bleeding sequence until the brake fluid pumped into the jar is completely free from air bubbles.

(*f*) Lock all bleed screws and finally regulate the fluid level in the reservoir

(*g*) Apply normal working load on the brake pedal for a period of two or three minutes and examine the entire system for leaks.

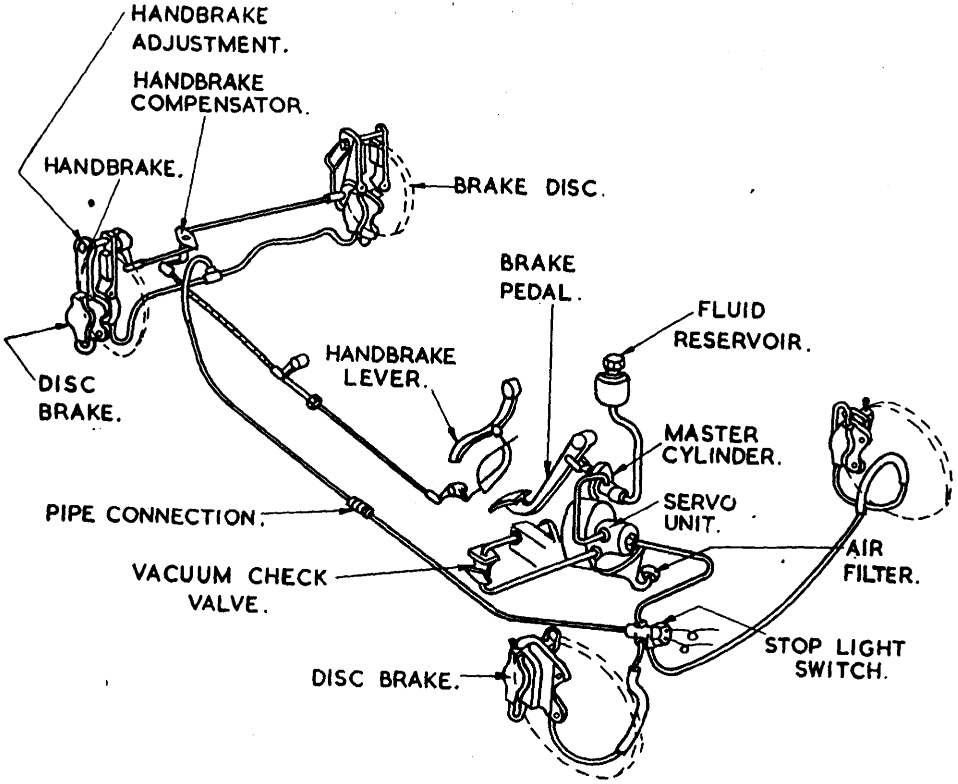


FIG. 29 DIAGRAM OF BRAKE LAYOUT

Electrical Equipment

Lighting .... page 62

Starter Motor 65

Dynamo 66

Control Box 67

Battery 69

Accessories......................... 69

Lamp Bulbs 71

Lighting

Headlamps

Each headlamp incorporates a Lucas "Light-Unit", which consists of a reflector and front glass assembly provided with a mounting flange by means of which it is secured in the body housing. The bulbs of the Lucas "pre-focus" type are so designed that no focusing is required when fitting a replacement bulb.

Anti-Dazzle Device

The headlamps are fitted with a special double filament bulb which provides either a main driving beam or a dipped beam. Should it be desired to use single dipping, the right-hand dipped filament lead may be disconnected at the rubber covered snap-connector at the side of the radiator block.

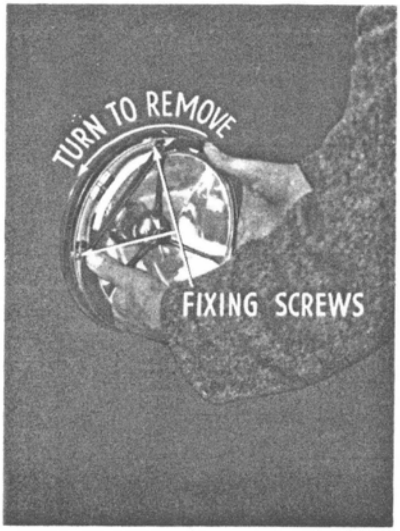


FIG. 30 REMOVING THE LIGHT UNIT

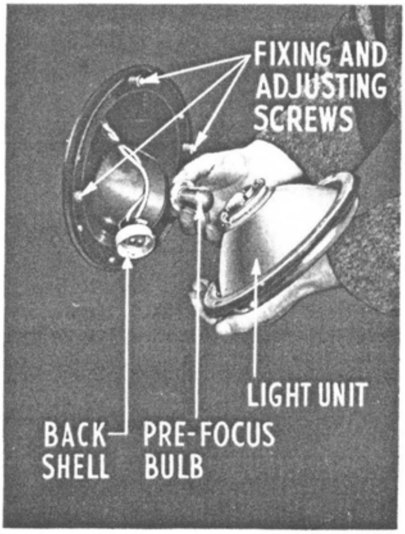


FIG. 31 HEADLAMP BULB REPLACEMENT

Replacing Bulbs

Remove the front rim by unscrewing the screw which secures it and lifting off the rim. Next remove the light unit by pressing it inwards against the tension of the springs on the three adjusting screws and turning it in an anti-clockwise direction until the heads of the screws can be disengaged through the slotted holes in the rim of the light unit. Do not disturb the adjusting screws, as this would alter the lamp setting. Then turn the back shell anti-clockwise and pull it off. The bulb can now be taken out. When replacing the bulb, take care to locate it correctly. Engage the projections inside of the back shell with the slots in the bulb holder; press on, and secure by turning clockwise. Re-fit the light unit and the front rim.

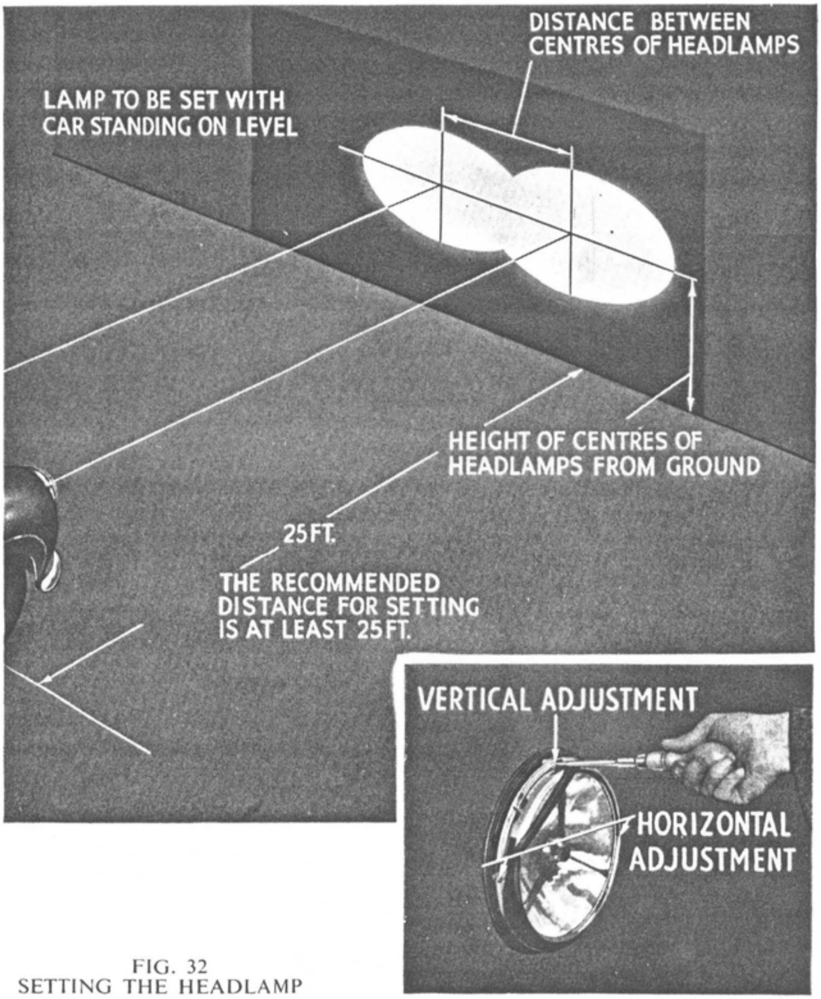

DISTANCE BETWEEN CENTRES OF HEADLAMPS
LAMP TO BE SET WITH CAR STANDING ON LEVEL
HEIGHT OF CENTRES OF HEADLAMPS FROM GROUND
25FT.
THE RECOMMENDED DISTANCE FOR SETTING IS AT LEAST 25FT.
VERTICAL ADJUSTMENT
HORIZONTAL ADJUSTMENT

FIG. 32
SETTING THE HEADLAMP

Setting the Headlamps

The headlamps should be set so that the beams are directed straight ahead and parallel with the road surface. If adjustment is required, remove the front rim as described above. For vertical adjustment, turn the screw at the top of the lamp. Horizontal adjustment can be altered by the adjusting screws on each side of the light unit.

The setting of the headlamps should be carried out by placing the car in front of a blank wall at the greatest possible distance, taking care, of course, that the surface on which the car is standing is not sloping in relation to the wall. It will be found an advantage to cover one headlamp while the other is being set.

SIDE LAMPS

Each sidelamp has a rubber mounted bulbholder, and the lens is held in position by a chromium plated rim secured by two screws, one at each side.

To replace a bulb

(1) Remove the securing screws.

(2) Take off the rim and lens.

(3) Press in, twist and withdraw the bulb from its bayonet type bulbholder.

(4) Fit new bulb and refit lens, rim and screws.

FOG LAMPS

The lamp is a Lucas pre-focus light unit secured in its housing by a lip at the top and screw with swivel clamp at the bottom. A nick in the bulb flange registers with a dowel in the bulb holder for correct location of the bulb.

The lamp is made air-tight and the bulb firmly secured by two plate wedges which are projections attached to a composition annular ring.

One wedge is larger than the other to ensure correct engagement. The centre of the glass is pierced by a metal dome.

To replace a bulb

(1) Steady the lamp with one hand and loosen the lower clamp screw with the other until the clamp can swivel or turn to its lower position.

(2) With both hands ease the unit from under the top lip and withdraw the unit as far as the cables permit.

(3) Hold the unit firmly and turn the wedge ring in the direction indicated by the arrow. Withdraw the wedge ring and remove the bulb.

Note : The wedges are tight and it may be advantageous to disconnect the cables. If removed note which cable belongs to each connector and refit *correctly*.

(5) Fit the wedges in their correct inserts and twist the wedge ring in the opposite direction to that indicated.

(4) Insert the new bulb registering its flange nick with the dowel.

(6) Replace the unit. (Reverse of 1 and 2).

WARNING

The lamps develop considerable heat and are air-cooled by virtue of the car's motion. The difference in heat expansion of glass and dome may result in a cracked glass if used with the car stationary.

STOP/TAIL, REVERSING AND FLASHER LAMPS

Access to the bulbs is through the lamp front.

(1) Press rim inwards and turn anti-clockwise to release the rim and lens.

(2) Remove the bulb as for bayonet catch, *i.e.*, press in, twist and withdraw.

(3) Fit new bulb, press in, twist the opposite way and release.

(4) Replace rim and lens, press in and turn clockwise.

BOOT INTERIOR LAMP

Boot Lamp

Operated by the action of opening the boot lid.

A fixture consisting of a rectangular metal base having a bayonet type bulb holder in the centre and two slots on each side of its length.

A transparent plastic dished cover has four lipped tongue projections coinciding with the slots, fixture of cover to base depending on the elasticity of the plastic.

To replace a bulb

(1) Squeeze the two long sides inwards (towards the bulb) and withdraw the cover downwards.

(2) Remove and replace the bulb as for bayonet catch. (See 3 and 4 Side Lamps).

(3) Reverse of 1, make sure the cover is fully home; if not, a distinct click will be heard on the application of upward pressure.

INTERIOR LAMP

Comprising Courtesy and Reading Lights.

The courtesy lights are operated by the doors and the reading lights by separate switches on the door pillars. To replace bulb remove screw and unhook cover from base.

Starter Motor

To ensure the longest life to the Starter Motor and the battery, the following points should always be observed when starting :—

(1) See that the controls are properly set.

(2) Operate the starter control firmly and, of course, release it as soon as the engine starts.

(3) Never operate the starter while the engine is running.

(4) Do not exhaust the battery by keeping the starter on for long periods when the engine fails to start, release the starter button, pause for 15 seconds then press the starter switch again.

Maintenance—Every 12,000 Miles (19,200 Km.) check Commutator and Brush Gear

To service the starter motor it will be necessary to remove it completely from the car. Proceed in the following manner :—

(1) Remove the starter motor cable from the terminal on the end of the motor.

(2) Remove the two bolts securing the motor to the flywheel housing.

To examine the commutator and the brushes, remove the cover band on the starter motor. See that the brushes move freely in their holders by holding back the brush springs and pulling gently on the flexible connectors. If a brush is inclined to stick, remove it from its holder and clean the sides of the brush with a cloth moistened with petrol. Take care to replace the brushes in their original position so as to retain their correct "bedding". If the brushes have worn to less than $\frac{5}{16}$ in. in length, new brushes must be fitted. These are pre-formed so that bedding to the commutator is unnecessary.

The commutator should be clean, free from oil or dirt and should have a polished appearance. If it is dirty, clean by pressing a fine, dry cloth against it while the motor is being slowly turned by hand.

In the event of the starter pinion becoming jammed in mesh with the flywheel gearing, it can be released by means of the square on the end of the armature spindle protruding through the commutator end plate of the motor. This square has a cylindrical protector cap which can be removed by pulling. Apply a spanner to the square and turn against the direction of rotation.

Adjustment is not necessary.

Starter Motor Solenoid Switch

This is operated by the ignition switch on the fascia panel.

The Dynamo

The dynamo is electrically coupled to a current regulator and voltage regulator mounted together with an automatic cut-out in the control box.

Maintenance

Approximately every 12,000 miles (19,200 km.) remove the dynamo cover band (see Fig. 33) to inspect the brushes and the commutator. Check that the brushes move freely in their holders by holding back the brush springs and pulling gently at the flexible connectors. If a brush is inclined to stick, remove it from its holder and clean the sides of the brush with a petrol moistened cloth. Take care to replace the brushes in their original positions, in order to retain the "bedding". Brushes which have worn to the point when they will no longer bear correctly on the commutator, must be replaced and properly bedded at a Lucas Agency or Service Depot. The commutator should be clean and free from all traces of oil or dirt and have a polished appearance. If the commutator is very dirty clean with a petrol moistened cloth.

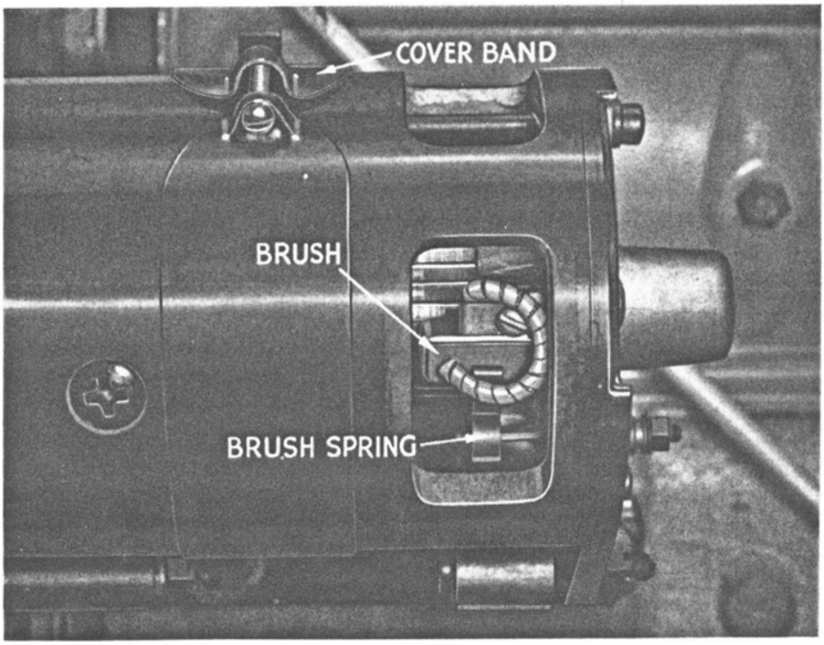


FIG. 33 DYNAMO COVER BAND REMOVED SHOWING COMMUTATOR AND BRUSH GEAR

Every 12,000 *miles* (19,200) *km.) inject a few drops of oil* (*S.A.E.*30) *in hole marked "OIL" at commutatior end of Dynamo. See Fig.* 5.

Adjustment

Inspect the dynamo driving belt to see that it is not too slack. A loose belt may prevent the dynamo from giving its full output. The belt must not be over-tightened and care must be taken to ensure that the dynamo is correctly aligned, otherwise undue strain may be thrown on the bearings. When correctly tensioned, it is possible to move the belt up and down, for a distance of about ¾ in. between two of the pulleys.

THE CONTROL BOX

The settings of the automatic cut-out, voltage and current regulators have been carefully carried out in manufacture. No further attention is necessary.

The fuses are "cartridge" type, each consisting of a glass tube surrounding a fuse wire soldered to two end caps and a paper slip also within the tube indicates the fuse rating in amperes.

Fig. 34 shows the positions of the fuses, charging plug sockets, control box and flasher unit. The lower auxiliary fuse protects the interior lights, horns and cigar lighter. The upper ignition auxiliary fuse protects the windscreen wiper, blower motor,flashers, fuel gauge, brake and reversing lights.

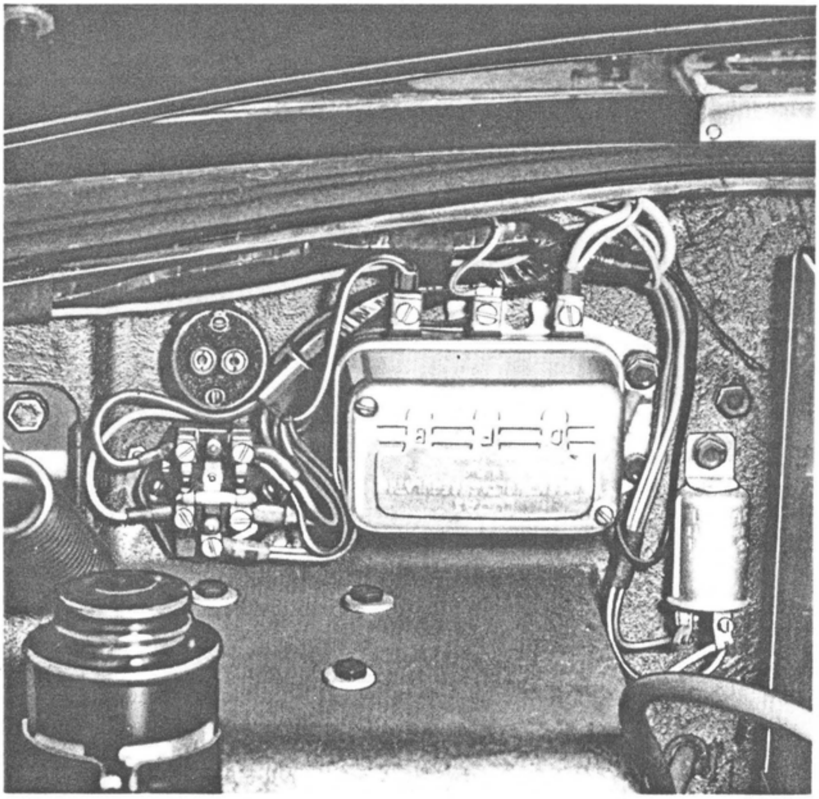


FIG. 34 CONTROL BOX AND FUSES

Blown Fuses

A blown fuse will be indicated by failure of one or more of its protected units and will be confirmed by removing and examining it for a burnt out fuse wire. Should the fuse again blow after fitting a new one of the same value, its protected circuits should be examined for "shorting".

To replace a fuse simply remove it from its spring clips and insert a reserve. Discard the burnt fuse and obtain a reserve as soon as it is convenient.

Auxiliary Charging and Inspection Lamp Socket

This is a two pin socket mounted above the fuses.

When used for charging the battery "in situ", from an external source, the connections must be correct, *i.e.*, POSITIVE to POSITIVE, N.B.: POSITIVE "RED" (earthed).

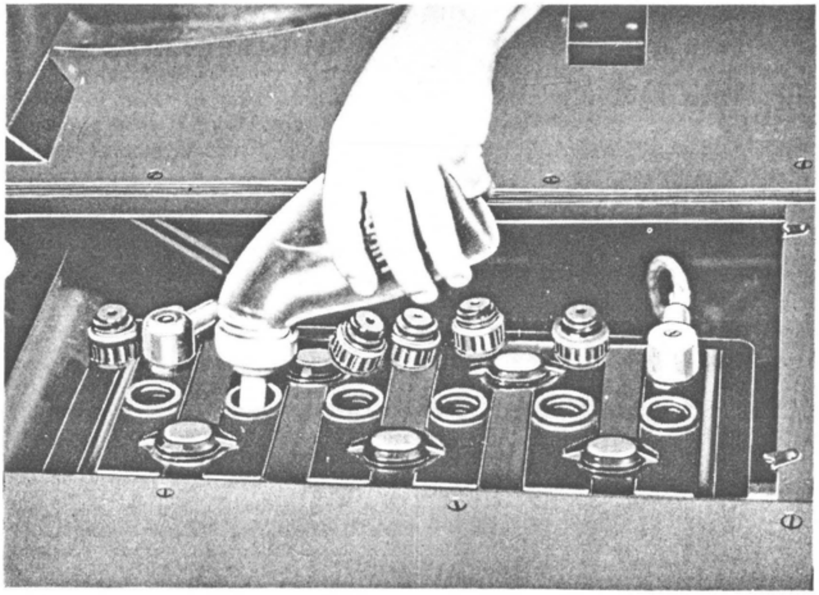


FIG. 35 TOPPING UP THE BATTERY

The Battery

The Battery is mounted in the engine compartment for the Right Hand Drive Car, and beneath the rear seat cushion on the Left Hand Drive Car on the left hand side of the vehicle.

To Remove

Disconnect the cables at the battery terminal lugs, slacken off the two clamping nuts and use a battery lifter.

Maintenance

Once a month top up the electrolyte with distilled water until it is level with the tops of the separators. Do not use tap water. Do not use a naked light when examining the condition of the cells.

Keep the terminals clean. If they are corroded, scrape them clean and smear them with Vaseline. Wipe away all dirt and moisture from the top of the battery and make sure that the connections and fixing bolts are clean and tight.

The cable connectors must not be hammered on to the terminal posts or withdrawal will be difficult. Nor should the self-tapping screw be used to tighten the connector down. A light tap with the handle of a screwdriver will suffice, and the screw should be tightened sufficient to maintain a secure connection.

The Electric Horn

All horns are adjusted to give their best performance before leaving the Works, and will therefore give a long period of service without any need of attention. No subsequent adjustment is required.

Windscreen Wipers

Turn switch to the right to set wipers in motion. They operate only when the ignition key is turned. Normal speed is for use in average conditions. The higher speed is only intended for use during heavy rain, when the wipers are unable to function efficiently at normal speed. It should not be used in heavy snow or with a dry or drying windscreen, *i.e.*, when the load on the motor is in excess of normal. The mechanism incorporates an automatic parking device.

No adjustment or lubrication is required. If the rubber wiping blades become worn or perished, they can easily be replaced at a very small cost.

Windscreen Washer

The control should be pressed for not more than a second or two. When it is released, two fine jets of water will strike the screen. The equipment should be used in conjunction with the windscreen wipers. It will operate only when the engine is running.

Cleaning the Jets

(1) Unscrew the knurled button one turn; do not remove.

(2) Operate the washer and allow the water to flow freely through the loose jet to remove any particles or grit.

(3) Re-tighten the knurled button, taking care not to damage or lose the plastic washer.

(4) Repeat the above for the other jet—do not clean both jets at the same time.

Jet Alignment

The wash jets should strike the screen at points one or two inches from the upper edge and in the centre of the wiper arc. To adjust. Slacken the wing nut behind the fascia under the scuttle and turn the hexagon portion of the jet body above the scuttle. To ensure final adjustment of the angle of the spray, turn the jet assembly. Tighten the wing nut.

Topping-up Water Reservoir

Fill the reservoir to within 1½ inches of the top of the jar. It is recommended that washer solvent should be added to each charge since this not only assists in cleaning the windscreen but acts as an anti-freeze in winter.

Note : Other anti-freeze preparations should not be allowed to enter the system under any circumstances.

The Speedometer Flexible Drive

Every 18,000 miles, unscrew knurled nut on the speedometer drive at the back of the instrument. Lift the bonnet and prise out the rubber grommet and draw out the cable from the dash. The inner cable may now be pulled out of the outer casing. Smear the inner cable with grease and replace in outer casing. Thread the end of the drive through the dash and reconnect to the instrument. Refit the rubber grommet.

LAMP BULBS

	R.H.D. only	L.H.D.	L.H.D. except EUROPE	L.H.D. EUROPE except FRANCE	L.H.D. FRANCE only	L.H.D. U.S.A. only
Headlamps	414 50/40W		415 50/40W	370 45/40W	372 45/36W	355 42/36W
Sidelamps	996 8W		989 6W	989 6W	989 6W	989 6W
Flashers Front	382 21W		382 21W	382 21W	382 21W	382 21W
Fog Lamp	323 48W		323 48W	323 48W	600 48W	323 48W
Pass Lamp	185 48W		185 48W	185 48W	600 48W	185 48W
No. Plate Lamp	222 4W		222 4W	222 4W	222 4W	222 4W
Reversing Lamp	382 21W		382 21W	382 21W	382 21W	382 21W
Flashers Rear	382 21W		382 21W	382 21W	382 21W	382 21W
Stop Tail Lamp	380 21/6W		380 21/6W	380 21/6W	380 21/6W	380 21/6W
Interior Lamp	380 21/6W		380 21/6W	380 21/6W	380 21/6W	380 21/6W
Boot Lamp	989 6W		989 6W	989 6W	989 6W	989 6W
Panel Lights	989 6W		989 6W	989 6W	989 6W	989 6W
WARNING LAMP BULBS						
		AUSTRALIA				
Main Beam	989 6W	989 6W	989 6W	989 6W	989 6W	989 6W
Flasher	989 6W	222 4W	989 6W	989 6W	989 6W	989 6W
Oil	987 2·2W	987 2·2W	987 2·2W	987 2·2W	987 2·2W	987 2·2W
Ignition	987 2·2W	989 6W	987 2·2W	987 2·2W	987 2·2W	987 2·2W

Use parts of genuine Daimler manufacture **only** when making a replacement.

Genuine Daimler spare parts are stocked by Daimler distributors and dealers in most important centres.

The Chassis

Chassis Lubrication .... page 74
Changing a Wheel 74

The Chassis

Chassis Lubrication

The chassis lubrication is by grease gun as shown on the "Lubrication Diagram" and in the "Period Service Chart" on pages 82 and 83.

The Jacking System

Four easily accessible jack brackets are provided on the chassis for raising the car by means of the "Bevelift" jack supplied with the car. Front: The jack brackets are incorporated in the front extremities of the chassis side members. Rear: Transverse jack brackets are incorporated in the rear spring front mounting. To operate the jack, pull out the two legs to their full extent and fit the lifting arm into the jack bracket. Stand the jack on the ground and run the bronze nut up the screwed shaft until it engages with the lifting arm, then turn the handle to raise the car.

The jacking system is provided to enable the driver to raise the car for wheel changing in the event of tyre trouble. It is not intended that the jack shall be used for prolonged overhauls underneath the car.

Changing a Wheel

(1) Fit the jack and take the weight of the car, do not lift the tyre clear of the road.

(2) Remove the hub cover by inserting the tool provided behind the outer rim, and twist gently.

(3) With the wheel brace supplied, slack off the five wheel nuts, about two turns.

(4) Jack up the car until the tyre is clear of the road, remove the wheel nuts, and lift off the wheel, taking care not to damage the threads on the studs.

(5) Mount the replacement wheel on the hub and refit the wheel nuts. Tighten the nuts by taking each alternate one.

(6) Remove the jack, make sure the wheel nuts are tight, then refit the hub cover,

Tyres

6·50″ × 16″ tyres are fitted on 16″ × 5½″ rims.

Maintenance

Check tyre pressures weekly. These should be maintained at 28 lbs./sq. in. front and 30 lbs./sq. in. rear, except under abnormal load, when the pressure should be raised by a further 2 lbs. at the rear. Examine the tyres for embedded flints, nails, etc., and extract these with the aid of a screwdriver or some similar implement.

Uneven wear of tyres may be due to incorrect front wheel alignment (see "Steering" page 54).

Care of Tyres

The following precautions should always be observed:—

(1) Avoid under or over-inflation.

(2) Avoid striking kerbs or any severe impact.

(3) Have any damage repaired at once.

(4) Change the wheels round at frequent intervals, including the spare.

(5) Keep the handbrake adjusted, and ensure that the foot brake pads are within the working range of automatic adjustment.

(6) Have the wheels checked periodically for misalignment or other mechanical irregularities.

The standard tyres fitted are Dunlop Tubeless for which two outstanding features are claimed:—

(1) Self sealing when punctured.

(2) Longer retention of pressures.

Thus it is necessary to remove these tyres only for renewal due to worn treads or when abnormal treatment of tyres or rims has occurred.

Tyre pressures must necessarily be maintained since the valve is, as always, a possible cause of loss of air.

Caution

Tubeless tyres are a somewhat tighter fit on their rims than tube type. Tyre changing is only necessitated by 'end of life' or damage which would render any tyre non-repairable and should be left to service station personnel.

Special Information

Before leaving the Works, the wheels and tyres are carefully balanced, and this balance should be restored after tyre replacement.

Spare Wheel

The spare wheel is located under the boot in a retracting tray actuated by a jack-bolt accessible via an aperture in the right rear of the boot floor.

To Gain Access

(1) Remove the aperture lid by lifting the strap across it.

(2) Fit the socket extension to the wheel-brace and mate the socket to the jack-bolt.

(3) Turn the wheel-brace anti-clockwise until the spare wheel is visible and protruding to the level of the rear bumper.

(4) The spare wheel can now be removed.

Replacement is a direct reversal of the above procedure. Make sure that the wheel is pushed hard against the stop blocks in the front of the tray, otherwise difficulty will be experienced when retracting.

To Replace the Lid

Lift the strap, insert the strap lip nearest the rivet, press home the lid and release.

Use parts of genuine Daimler manufacture **only** when making a replacement.

Genuine Daimler spare parts are stocked by Daimler distributors and dealers in most important centres.

The Body

Care and Preservation .... page 78

Tool Kit 78

BODY (CARE AND PRESERVATION)

Care of the Paintwork

Use an abundance of water for washing down, preferably with a hosepipe. After thorough swilling, sponge off the remaining dirt and dry with a chamois leather. A good and lasting finish is to be obtained from wax polish, though admittedly this is hard to apply.

Note : When cleaning the windscreen or the top of the scuttle, do not move the wiper arms from the outside, but always by the switch on the fascia panel.

Chromium Fittings

Chromium plated parts should be cleaned with soapy water, wiped off with a chamois leather and polished with a soft rag. *Never use ordinary metal polish.*

Interior Upholstery

(1) Leatherwork: A light application of good quality furniture polish.
(2) Clothwork: A soft brush. Stains can be removed by any proprietary cleaner.

Floor Carpets

Brush with a stiff brush. The use of a vacuum cleaner is a decided advantage.

Doors

An occasional drop of oil will keep hinges and catches in good working order and free from possible squeaks.

Tool Kit

Ref. No.	*Description*	*No. per set*
1	Double-ended Spanner (UN No. 8 and 10)	
2	Double-ended Spanner ($\frac{3}{4}$″ × $\frac{5}{16}$″)	1
3	Double-ended Spanner ($\frac{3}{8}$″ × $\frac{7}{16}$″)	1
4	Double-ended Spanner ($\frac{7}{16}$″ Nut × $\frac{1}{2}$″ Bolt)	1
5	Double-ended Spanner ($\frac{1}{2}$″ Nut × $\frac{5}{8}$″ Bolt) ✓	1
6	Box Spanner ($\frac{5}{16}$″ × $\frac{3}{8}$″)	1
7	Box Spanner ($\frac{7}{16}$″ × $\frac{1}{2}$″)	
8	Box Spanner for Sparking Plugs ✓	1
9	Tommy Bar ✓	1
10	Wheel Hub Cap Remover ✓	1
11	Front Hub Cap Spanner ✓	1
12	Pliers ✓	1
13	Screwdriver ✓	1
14	Screwdriver and Feeler Gauge for Distributor	1
15	Contact Breaker File	1
16	Wheel Brace ✓	1
17	Lifting Jack ✓	1
18	Feeler Gauge for Valve Tip Clearance ✓	1
19	BleederTube and Container for Hydraulic Brakes	1
20	Starting Handle ✓	1
21	Wheelbrace Extension for spare wheel ✓	1
22	Owner's Handbook ✓	1

Summary of Maintenance

The engine sump is filled with DAIMLER 10/30 HIGH VISCOSITY INDEX ENGINE OIL and continued use of this special oil is strongly recommended.

DAILY MAINTENANCE ...... page 80
WEEKLY MAINTENANCE 80
MONTHLY MAINTENANCE 80
Service Check after first 500 miles .. 9
Every 1000 miles 80
Every 3000 miles 80
Every 6000 miles 80
Every 12000 miles 81
Every 18000 miles 81
Every 30000 miles 81
Every 60000 miles 81
Chassis Lubrication Diagram 82
Period Service Chart 83
Recommended Lubricants 83

Summary of Maintenance

	See page
DAILY	
Check oil level in engine sump	
Check water level in radiator Check petrol level in tank	
WEEKLY	
Check tyre pressure, including spare	
Check windscreen washer bottle	
MONTHLY	
Check acid level in battery	
Spray rear springs with penetrating oil	
Warning— Do not allow any oil to be sprayed on the brake disc or the brake pads, these should be protected while the operation is carried out.	
FOR SERVICE CHECK AFTER FIRST 500 MILES (800 KM.)	9
EVERY 1,000 MILES (1,600 KM.)	
Lubricate in accordance with Period Service Chart	83
EVERY 3,000 MILES (4,800 KM.)	
Check valve tip clearances	26
Change engine oil and clean filter	24
Check fan belt adjustment	36
Lubricate distributor cam and cam bearing automatic advance	32
Clean and reset points	32
Clean and reset plug points.	34
Top up dashpots on carburettors	30
Refill distributor shaft greaser (if necessary)	32
Adjust camshaft chain tensioner	23
FOR AUTOMATIC TRANSMISSION MAINTENANCE	40
EVERY 6,000 MILES (9,600 KM.)	
Repeat 3,000 miles service, *and* :—	
Clean carburettor filter and float chamber	30
Clean petrol pump sediment bowl	31
Change oil in rear axle	49
Clean the air silencer element	30

	See page
EVERY 12,000 MILES (19,000 KM.)	
Repeat 6,000 miles service, *and* :—	
Clean starter motor and dynamo commutator and brush gear	66
Lubricate dynamo, inject a few drops of oil in hole marked "OIL" at commutator end	67
EVERY 18,000 MILES (28,800 KM.)	
Change oil filter element (engine)	24
Lubricate speedometer cable	70
EVERY 30,000 MILES (50,000 KM.)	
Drain and refill transmission	41
EVERY 60,000 MILES (100,000 KM.)	
Clean transmission oil filter	42
FOR RECOMMENDED LUBRICANTS	83

The Daimler 3·8 Litre 'Majestic' Saloon Chassis Lubrication Diagram

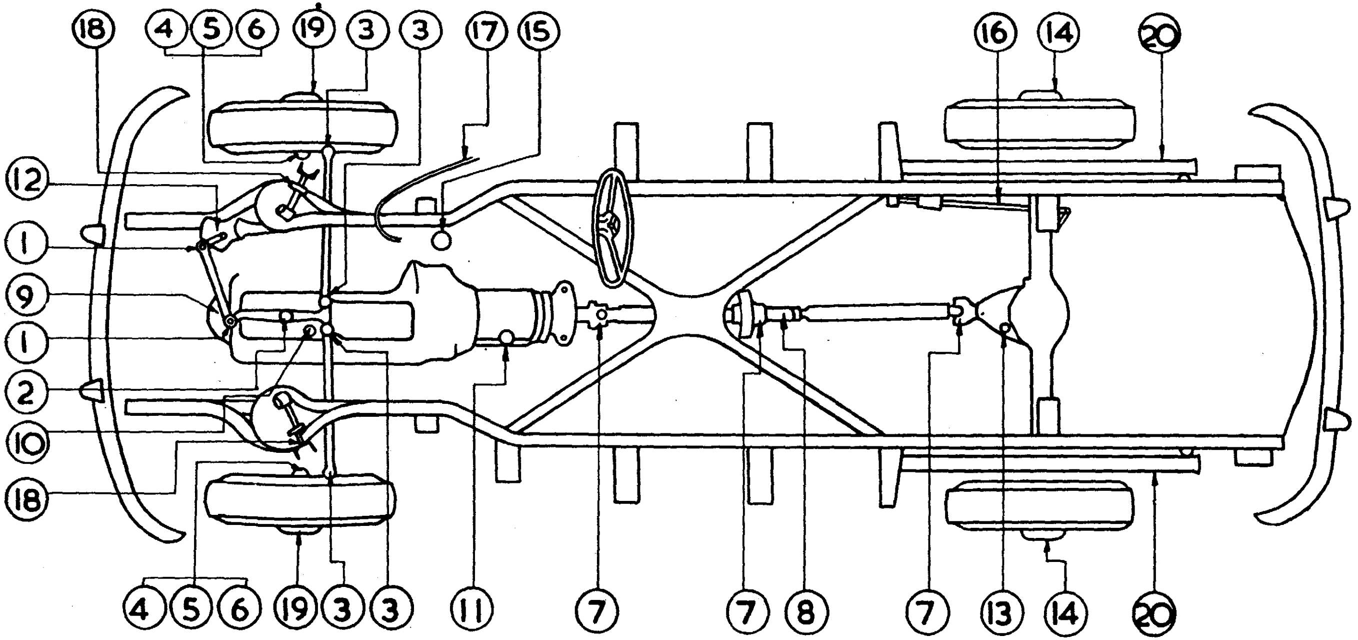


FIG. 36

PERIOD SERVICE CHART

ndex	Description	Recommended Lubricant	Number of Points	Lubricate Every Miles	Lubricate Every Kilos
1	Drag Link	D	2	1000	1600
2	Steering Pivot Lever	D	1	,,	,,
3	Steering Track Rod	D	4	,,	,,
4	Front Suspension Pedestal	D	2	,,	,,
5	Front Suspension Swivel Axle	D	2	,,	,,
6	Front Suspension Swivel Pin	D	2	,,	,,
7	Propeller Shaft Needle Rollers	F	3	,,	,,
8	Propeller Shaft Splines	F	1	,,	,,
9	Water Pump	D	1	3000	4800
10	Engine	A	Filler	,,	,,
11	Automatic Transmission	B	Filler	,,	,,

Index	Description	Recommended Lubricant	Number of Points	Lubricate Every Miles	Lubricate Every Kilos
12	Steering Box	C	Filler	3000	4800
13	Rear Axle	C	Filler	,,	,,
14	Rear Hubs	D	2	,,	,,
15	Brakes (check level in reservoir)	G	Filler	,,	,,
16	Handbrake Cable—Rear	D	1	6000	9600
17	Handbrake Cable—Front	D	1	,,	,,
18	Front Suspension Transverse Top Link	D	2	,,	,,
19	Front Hubs	D	Pack	12000	19000
20	Rear Spring Leaves (Protect Brake Discs)	E	Spray	When Required	

NOTE :-For detailed instructions for maintenance of Automatic Transmission see page 40.

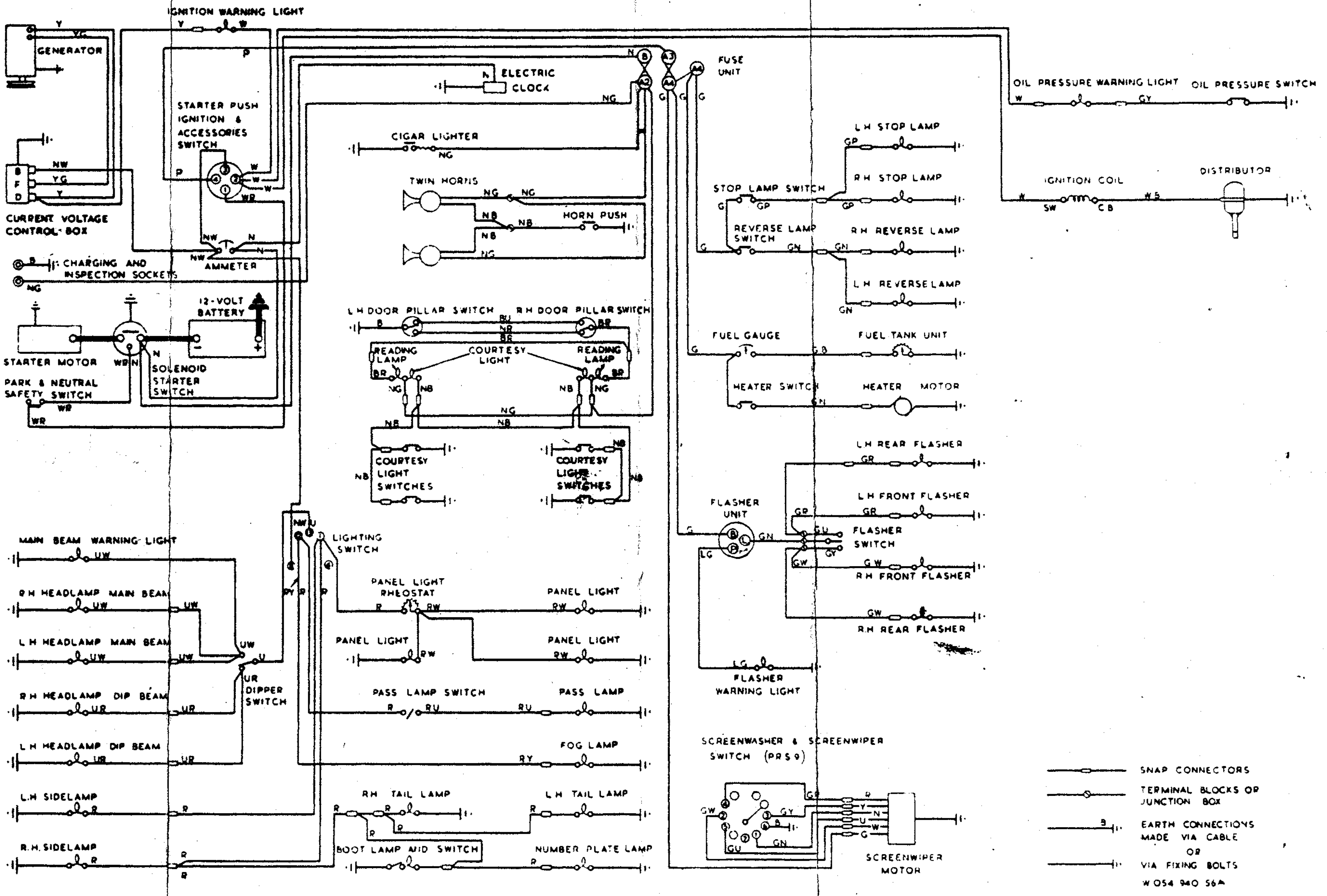
RECOMMENDED LUBRICANTS

	DAIMLER	B.P. ENERGOL	ESSO	SHELL	MOBIL	WAKEFIELD	Recommended Lubricant
ENGINE	Daimler 10/30 High Viscosity Index Engine Oil	Special Energol Visco-static	—	X-100 Motor Oil 10W/30	Mobil Special	—	A
AUTOMATIC TRANSMISSION		B.P. Energol A.T.F. Type A	Automatic Transmission Fluid 55	Donax T.6	Mobil Fluid 200	Castrol T.Q.	B
REAR AXLE AND STEERING BOX		Energol E.P. S.A.E. 90	Esso Expee Compound 90	Spirax 90 E.P.	Mobilube G.X. 90	Castrol Hypoy	C
CHASSIS LUBRICATION HUBS AND WATER PUMP HANDBRAKE CABLES	Daimler R.B. Grease	Energrease L.2	Esso Grease	Retinax A or R.B.	Mobil Grease M.P.	Castrolease Heavy	D
REAR SPRING LEAVES	—	Energol Penetrating Oil	Esso Penetrating Oil	Donax P.	Mobil Spring Oil	Castrol Penetrating Oil	E
PROPELLER SHAFT SPLINES AND NEEDLE ROLLERS	—	Energol S.A.E. 140 or E.P. S.A.E. 140	Esso Gear Oil 140	Spirax 140 E.P.	Mobilube C.140	Castrol D	F
BRAKE FLUID	—	—	—	—	—	Crimson	G

RE-ISSUED:
MARCH 1959

LUCAS ELECTRICAL EQUIPMENT

DAIMLER



CABLE COLOUR CODE

B	BLACK	P	PURPLE	Y	YELLOW
U	BLUE	G	GREEN	D	DARK
N	BROWN	S	SLATE	L	LIGHT
R	RED	W	WHITE	M	MEDIUM

DAIMLER 3·8 LITRE "MAJESTIC" SALOON CARS

(1958-59)

Also 1960 up to chassis number 99299

WIRING DIAGRAM
No. W054 940 56A

Supersedes W05494054 which should be destroyed